CONTROL DATA

60463610

19003 System Console
Operations and
Maintenance Guide

OPERATION Guide

////CYBER
Computer System

CDC 19003 System Console
(CC598-A/B/D/E)

Operations and Maintenance Guide

This product is intended for use only as described in this document. Control Data cannot be responsible for the proper functioning of undescribed features and parameters.

Publication Number 60463610

Manual History

Technical changes and additions are indicated by vertical change bars in the margins.

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B	–	April, 1987	Preliminary release.
C	–	September, 1988	Manual updated to support 19003-2.
D	–	October, 1988	Manual updated to support CIP L716.
E	–	November, 1988	Miscellaneous corrections.
F	50435	May, 1989	Manual updated to support CIP L727.
G	50715	October, 1989	Manual updated to support CIP L739.
H	–	June, 1990	Manual updated to support CIP L750. Minor changes to Help Menu and error messages.
J	–	January, 1991	Manual updated to support CIP L765. Adds CC598-D/E system console support. Due to extensive changes, change bars are not used. This edition obsoletes all previous editions.

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Contents

About This Manual 7

Organization 7
Audience 8
Control Data Related Publications 8
Ordering Manuals 10
Conventions 10
Trademarks 11
Radio Frequency Warning 11
Canadian Compliance 11
Cables 12
Disclaimer 12

Part I: Operation

Introduction 1-1

System Console Components 1-1
System Console Functions and Features 1-4

Operator Controls and Displays ... 2-1

Console Computing Unit (CCU) ... 2-2
Monitor 2-6
Keyboard 2-8
Console Displays 2-12
Control Data Copyright Display .. 2-16
Console Main Menu 2-17
Console Help Display 2-42
CC545 Console Support 2-42

Initializing the System Console 3-1

Recovery Procedure 3-2
Reinstalling/Upgrading System Console Software 3-3

Part II: Maintenance

System Console Installation 4-1

Unpacking 4-1
Installation 4-1
Initializing the Hard Disk and Installing the Software 4-7

Deinstallation 5-1

Troubleshooting 6-1

Console Failure 6-1
Troubleshooting the CC598-A/D System Console 6-6
Error Messages 6-8
Console Information Lost Notification 6-9
Undefined Deadstart Programs in Two-Port Mux (TPM) (Applies to CC598-B/E Only) 6-10
Running Multiport Network Adapter Diagnostics (CC598-A/B/D/E) 6-10
SCSI Adapter Channel Test Descriptions (Applies to CC598-A/D Only) 6-12
5698 Tape Subsystem Test Description (Applies to CC598-A/D Only) 6-12

Repair Procedures 7-1

Console Computing Unit (CCU) ... 7-1
Console Keyboard 7-1
Video Monitor 7-2
Adapter Housing Remove/Replace Procedure (CC598-A/B/D/E) 7-3
Adapter Card Remove/Replace Procedure (CC598-A/B/D/E) 7-5
Disk Drive Remove/Replace Procedure (CC598-A) 7-7
Differential SCSI Board Remove/Replace Procedure (CC598-A) 7-9
SE SCSI Board Remove/Replace Procedure (CC598-A) 7-12
Hard Disk Drive Remove/Replace Procedure (CC598-B) 7-16
Hard Disk Drive Remove/Replace Procedure (CC598-D/E) 7-18
Differential SCSI Board Remove/Replace Procedure (CC598-D) 7-20
SE SCSI Board Remove/Replace Procedure (CC598-D) 7-23
Initializing the Hard Disk 7-25

Hardware Quick Reference Diagrams **A-1**

Field Replaceable Units **B-1**

Error Codes **C-1**

Glossary **D-1**

Index **Index-1**

Figures

1-1. 19003-2/3 System Console 1-2
1-2. 19003-4/5 System Console 1-3
2-1. CCU Backpanel (CC598-A/B) 2-2
2-2. CCU Backpanel (CC598-D/E) 2-2
2-3. CCU Frontpanel (CC598-A/B) ... 2-4
2-4. CCU Frontpanel (CC598-D/E) ... 2-4
2-5. Monitor (Side View) 2-7
2-6. Monitor (Rear View) 2-7
2-7. Console Keyboard 2-8
2-8. Overview of CC598-A/D Single IOU Displays..... 2-12
2-9. Overview of CC598-A/D Dual IOU Displays..... 2-13
2-10. Overview of CC598-B/E Single IOU Displays..... 2-14
2-11. Overview of CC598-B/E Dual IOU Displays..... 2-15
2-12. System Console Main Menu ... 2-17
2-13. System Load Option Warning Display – CC598-B/E..... 2-19
2-14. System Load Option Warning Display – CC598-A/D..... 2-20
2-15. Maintenance Options Display for CC598-A/D (Single IOU System)..... 2-21
2-16. Maintenance Options Display for CC598-A/D (Dual IOU System). 2-21
2-17. Maintenance Options Display for CC598-B/E (Dual IOU System).. 2-22
2-18. Select CIP Partition Display (Applies to CC598-A/D only)..... 2-24
2-19. Install/Update CIP (Applies to CC598-A/D only)..... 2-26
2-20. IOU/Peripheral Tests Display for CC598-A/D..... 2-27
2-21. Test 5698 Tape Subsystem (Applies to CC598-A/D only)..... 2-27
2-22. Test IOU 0 SCSI Adapter Display (Applies to CC598-A/D only)..... 2-28
2-23. Test IOU1 SCSI Adapter Display (Applies to CC598-A/D only)..... 2-28
2-24. Console Utilities Display 2-29
2-25. Remote Link Display 2-30
2-26. Modify Remote Access Password Display..... 2-33
2-27. Verify Remote Access Password Display..... 2-33
2-28. Re-entering Remote Access Password Display..... 2-34
2-29. Modify Console Password Display..... 2-35
2-30. Modify Console Password Display..... 2-36
2-31. Re-entering Modify Console Password..... 2-36
2-32. Shutdown Console Display 2-37
2-33. Set Communication Parameters..... 2-38
2-34. Change Display Colors Menu . 2-41
2-35. Console Help Display 2-42
4-1. Backpanel Connections (CC598-A/B)..... 4-2
4-2. Backpanel Connections (CC598-D/E)..... 4-3
4-3. Multiport Network Adapter Cable Connections (Back View)..... 4-4
4-4. Sample Setup Menu 4-6
6-1. CC598-A Console Setup Menu ... 6-3
6-2. CC598-B and CC598-C Console Setup Menu..... 6-4
6-3. CC598-D/E Console Setup Menu..... 6-5
6-4. Console Information Lost Notification (CC598-A/D)..... 6-9
6-5. Console Information Lost Notification (CC598-B/E)..... 6-9
6-6. Floppy Disk Drive (CC598-A/B) 6-11
6-7. Floppy Disk Drive (CC598-D/E) 6-11
7-1. Video Logic Card Jumper Placement..... 7-2
7-2. Multiport Network Adapter Housing Jumper Locations (Inside View)..... 7-4
7-3. Multiport Network Adapter Logic Card Switches and Jumper.... 7-6

7-4. Connections for Hard Disk Drive (CC598-A) 7-8
7-5. Connections for SE End of Differential SCSI Board 7-10
7-6. Connections for DIFF End of Differential SCSI Board 7-11
7-7. Jumper Strap Locations on SE SCSI Board for Card Slot 3 7-14
7-8. Jumper Strap Locations on SE SCSI Board for Card Slot 4 7-15
7-9. Connections for Hard Disk Drive (CC598-B) 7-17
7-10. Jumper Placement on Hard Disk Drive (CC598-B) 7-17
7-11. Connections for Hard Disk Drive (CC598-D/E) 7-19
7-12. Connections for SE Differential SCSI Board 7-21
7-13. Connections for DIFF END of Differential SCSI Board 7-22
7-14. Jumper Strap Locations on SE SCSI Board 7-24
A-1. Top View of 12 MHz CCU Motherboard, Showing Logic Board Placement (CC598-A/B) A-2
A-2. SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Differential SCSI Board (CC598-A) A-3
A-3. SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Differential SCSI Board (CC598-D) A-4
A-4. SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Hard Disk Drive (CC598-A) A-5
A-5. Cable Connections to Hard Disk Drive (CC598-D/E) A-6
A-6. Multiport Network Adapter Board Factory Switch Settings (CC598-A/B/D/E) A-7
A-7. Paradise Video Board Factory Jumper Setting (CC598-A/B/D/E) A-8
A-8. Ribbon Cable Connection From Diff End of Differential SCSI Board to SCSI Adapter in Host (CC598-A) A-9
A-9. Ribbon Cable Connection From Diff End of Differential SCSI Board to SCSI Adapter in Host (CC598-D) A-10
A-10. Rear Views of CCU (CC598-A/B) A-11
A-11. Rear Views of CCU (CC598-D/E) A-12
A-12. Location of HDD/FDD Controller Board and Hard Disk Drive (CC598-B) A-13
A-13. Drive Select Jumper Placement on Hard Disk Drive (CC598-B) A-14

Tables

2-1. CCU Backpanel Controls (CC598-A/B and CC598-D/E) 2-3
2-2. CCU Frontpanel Controls 2-5
2-3. Monitor Controls 2-6
2-4. Keyboard Functions 2-9
2-5. Use of Function Keys 2-10
2-6. Use of Editing Keys 2-11
6-1. Console Troubleshooting 6-1
B-1. CC598-A System Console FRUs B-1
B-2. CC598-B System Console FRUs B-2
B-3. CC598-D System Console FRUs B-3
B-4. CC598-E System Console FRUs B-4
C-1. Fault Symptom Codes C-1

About This Manual

This manual provides operation, installation, and maintenance information for the Control Data 19003 System Consoles. The equivalent equipment numbers for these products are listed below.

Product Number	Equipment Number
19003-2	CC598-A
19003-3	CC598-B
19003-4	CC598-D
19003-5	CC598-E

NOTE

Some information in this manual refers to the CC598-C System Console. This console is described in appendix A of the LCN Network Maintenance Station, Operation and Maintenance Guide, publication number 60000424.

Organization

This manual is divided into two parts: Operation and Maintenance.

- Part I, Operation, is directed toward the computer system operator. It familiarizes the user with system console controls, indicators, keyboard functions, features, and displays used in system start-up, shut-down, and recovery procedures. This part describes procedures that are directly associated with the system console, and consists of the following chapters:

  Chapter 1 Introduction
  Chapter 2 Operator Controls and Displays
  Chapter 3 Initializing the System Console

For detailed information about the operation of Control Data's standard operating systems, refer to the applicable operations guides listed under Control Data Related Publications.

- Part II, Maintenance, is directed toward the customer engineer who will be servicing the system console. This part provides abbreviated procedures for installing and repairing the console, and consists of the following chapters:

  Chapter 4 System Console Installation
  Chapter 5 Deinstallation
  Chapter 6 Troubleshooting
  Chapter 7 Repair Procedures

Three appendixes present the following information: easy access to diagrams and figures used in the manual (appendix A), lists of Field-Replaceable Units (FRUs) for all consoles (appendix B), and fault symptom codes (appendix C).

For detailed maintenance information about the Zenith Z-248 and the Z-386SX desktop computers and monitor, refer to the Zenith service guide and diagnostics manual listed under Vendor Related Manuals.

Audience

This manual is intended for customer engineers, operators, and other site personnel responsible for the installation and maintenance of the 19003-2/CC598-A, 19003-3/CC598-B, 19003-4/CC598-D, and the 19003-5/CC598-E System Consoles.

Control Data Related Publications

The following manuals contain additional related information:

Control Data Publication	Publication Number
CYBER Initialization Package (CIP) CYBER 180 Models 810, 815, 825, 830; CYBER 810A, 830A Computer Systems Reference Manual	60000417
CYBER Initialization Package (CIP) CYBER 180 Models 835, 845, 855; CYBER 840, 850, 860 Computer Systems With IOU AB115A Reference Manual	60000418
CYBER Initialization Package (CIP) CYBER 180 Models 845, 855; CYBER 840, 850, 860 With IOU AT478A/AT481A; CYBER 840A, 850A, 860A, 870A, 990, 990E, 995E Computer Systems Reference Manual	60000419
CYBER Initialization Package (CIP) CYBER 960, 994 Computer Systems Reference Manual	60000420
CYBER Initialization Package (CIP) CYBER 962, 992 Computer Systems Reference Manual	60000421
CYBER Initialization Package (CIP) CYBER 170 Models 865, 875; Non-Model 8XX/9XX Computer Systems Reference Manual	60000422
NOS/VE System Usage	60463914
NOS Version 2 Operator/Analyst Handbook	60459310
NOS Version 2 Installation Handbook	60459320
CYBER 990E and 995E Central Computers Optional Equipment Installation and Checkout Hardware Maintenance Guide	60463700
Maintenance Software Library (MSL) 15X Offline Reference Manual	60456530
CYBER 960/962 Computer System Mainframe Installation and Checkout Manual	60000120

Control Data Publication	Publication Number
MSL 153/155 CYBER 96X Test Procedures Reference Manual	60461110
MSL 153/155 CYBER 96X Test Descriptions Reference Manual	60461920
Zenith Service Guide Z-200 PC Series	62950175
Zenith Z-200 Series Diagnostics and User's Guide	41621160
Standardized Maintenance Approach Quick Reference (SMAQR) Volume 2, CYBER 840, 845, 850, 855, and 860 Computer Systems	60461751
Standardized Maintenance Approach Quick Reference (SMAQR) Volume 2, CYBER 840S, 845, 855S, 855, 840A, 850A, 860A, and 870A Computer Systems	60463480
Standardized Maintenance Approach Quick Reference (SMAQR) Volume 2, CYBER 990, 990E, 992, 994, and 995E Computer Systems	60462111
CYBER 960/962 Computer System Troubleshooting Guide	60000122
CYBER Systems Peripheral Diagnostics Reference Manual	60000144
LCN Network Maintenance Station, Operations and Maintenance Guide	60000424

For more information on IOU types and the methods by which they are cooled, refer to the following manuals:

Control Data Publication	Publication Number
CDC AT478-B/AT481-B IOU and Associated Equipment Hardware Maintenance Manual	60000345
CDC AT511-A/AT512-A IOU and Associated Equipment Hardware Maintenance Manual	60000346

Vendor Related Manuals

The following publications are provided with the system console. These manuals are not obtainable from Control Data. The Zenith and Microsoft manuals are obtainable from Zenith Data Systems Corporation. The HOSTESS manual is obtainable from Comtrol Corporation.

Other Publications	Publication Number
Zenith Z-200 PC Series Computers Owner's Manual	595-3756-01
Zenith High-Resolution Analog RGB Color Video Monitor User's Guide	595-3924
Microsoft MS-DOS User's Guide and User's Reference Manual	595-3818
HOSTESS 550 Multiport Network Adapter User's Guide	None

Ordering Manuals

To order Control Data manuals, contact your local Control Data sales office, or place your publications order directly with:

Control Data
Literature and Distribution Services, ARHLDS
4201 Lexington Avenue N.
St. Paul, MN 55126-6198

To order Zenith or Microsoft manuals, place your publications order with:

Zenith Data Systems Corporation
St. Joseph, MI 49085

To order the HOSTESS 550 manual, place your publications order with:

Comtrol Corporation
2675 Patton Rd.
St. Paul, MN 55113

Conventions

The following conventions are used in this manual:

- The 19003-2 (CC598-A), 19003-3 (CC598-B), 19003-4 (CC598-D), and the 19003-5 (CC598-E) System Consoles are referred to as "system console" in this manual.
- When the word "press" is used in an instruction, it tells you to press the named key or keys.

  For example, when you see the instruction:

  Press **Enter**

  you should press the key labeled **Enter** on your keyboard.
- When the word press precedes a string of key names that are separated by hyphens (for example **Ctrl-Alt-Del**), it means that you should press the keys listed simultaneously.

  For example, when you see the instruction:

  Press **Ctrl-Alt-Del**

  you should press the keys labeled **Ctrl**, **Alt**, and **Del** simultaneously.
- When the word "type" is used in an instruction, it tells you to type in the following word.

  For example, when you see the instruction:

  Type TEST

  you should type the letters T E S T in sequence.

- Pages are numbered according to the consecutive chapter carrying over into additional parts. For example, page 3-5 refers to Part I (Operation), chapter 3 (Initializing the System Console), page 5. Page 4-4 refers to the first chapter in Part II, that is, chapter 4, page 4.

- Because changes to this manual are extensive, all pages are printed at the current revision level (G) and no change bars are used. This edition obsoletes all previous editions.

Trademarks

The Zenith-248 and Zenith-386SX are products of Zenith Data Systems Corporation.

HOSTESS is a trademark of Comtrol Corporation. The HOSTESS multiport network adapter is a product of Comtrol Corporation.

MS-DOS is a trademark of Microsoft Corporation.

Radio Frequency Warning

The following warning applies to all system consoles described in this manual.

WARNING

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense, will be required to take whatever measures may be required to correct the interference.

Canadian Compliance

This digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Cables

The following cables should be used when connecting optional equipment to the consoles, in order to maintain RF emissions within FCC limits:

- For modem connection, use Control Data's serial cable, P/N 67185786.
- For printer connection, use Control Data's parallel printer cable, P/N 15402547, or Electronix Systems Cable, P/N RAGD011L-6.

The consoles have been certified to be within FCC RF emission limits using a Panasonic dot matrix printer, model KX-P1091i.

Disclaimer

The product is intended for use only as described in this manual. Control Data is not responsible for the improper operation of undescribed features, undefined parameters, or customer modifications.

Part I: Operation

Introduction 1-1

Operator Controls and Displays 2-1

Initializing the System Console 3-1

Introduction 1

System Console Components 1-1

System Console Functions and Features 1-4
NOS/VE Support 1-4
NOS Support (Applies to CC598-B/E only) 1-4
CC545 DEADSTART Button Support (Applies to CC598-B/E only) 1-4
Maintenance Support 1-5
Remote Link Support 1-5
Enable/Disable Remote Link 1-5
Console Password 1-6
Remote Access Password 1-6
Print Display (Optional) 1-7
CIP Library Support (Applies to CC598-A/D only) 1-7
Environment Power Monitor (EPM) Support 1-7

Introduction 1

This chapter briefly describes the components of the CC598-A/B/D/E system consoles.

System Console Components

The CC598-A/B system console (figure 1-1) consists of a Zenith Z-248 Desktop Computer (referred to as a Console Computing Unit or CCU in this manual) with:

- Video monitor
- Keyboard

The CC598-A CCU consists of the following:

1 alphanumeric keyboard
91 Mbyte hard disk (Wren III) drive
1.2 Mbyte 5-1/4 in. floppy disk drive
1 Mbyte RAM (640K base)
1 parallel printer port
10 RS-232-C serial ports
1 SCSI port

The CC598-B Console Computing Unit (CCU) consists of the following:

1 alphanumeric keyboard
45 Mbyte hard disk (WREN II) drive
1.2 Mbyte 5-1/4 in. floppy disk drive
1 Mbyte RAM (640K base)
1 parallel printer port
10 RS-232-C serial ports

The CC598-D/E system console (figure 1-2) consists of a Zenith Z-386SX Desktop Computer (referred to as a Console Computing Unit or CCU in this manual) with:

- Video monitor
- Keyboard

The CC598-D CCU consists of the following:

1 alphanumeric keyboard
1 parallel printer port
10 RS-232-C serial ports
1 SCSI port
2 Mbyte RAM (640K base)
80 Mbyte hard disk drive
3.5 inch 1.44 Mbyte floppy disk drive

The CC598-E Console Computing Unit (CCU) consists of the following:

1 alphanumeric keyboard
1 parallel printer ports
10 RS-232-C serial ports
2 Mbyte RAM (640K base)
80 Mbyte hard disk drive
3.5 inch 1.44 Mbyte floppy disk drive

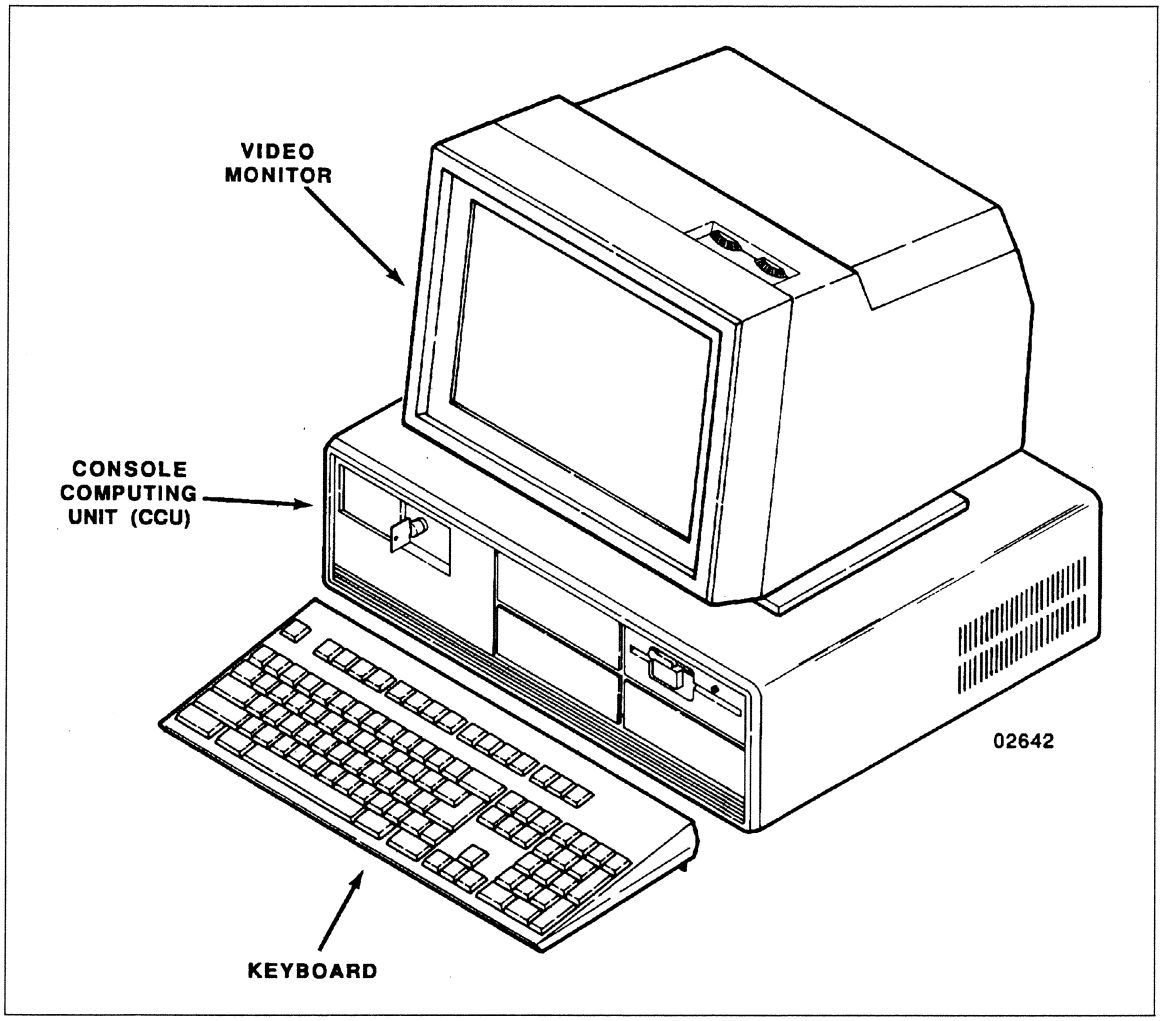

Figure 1-1. 19003-2/3 System Console

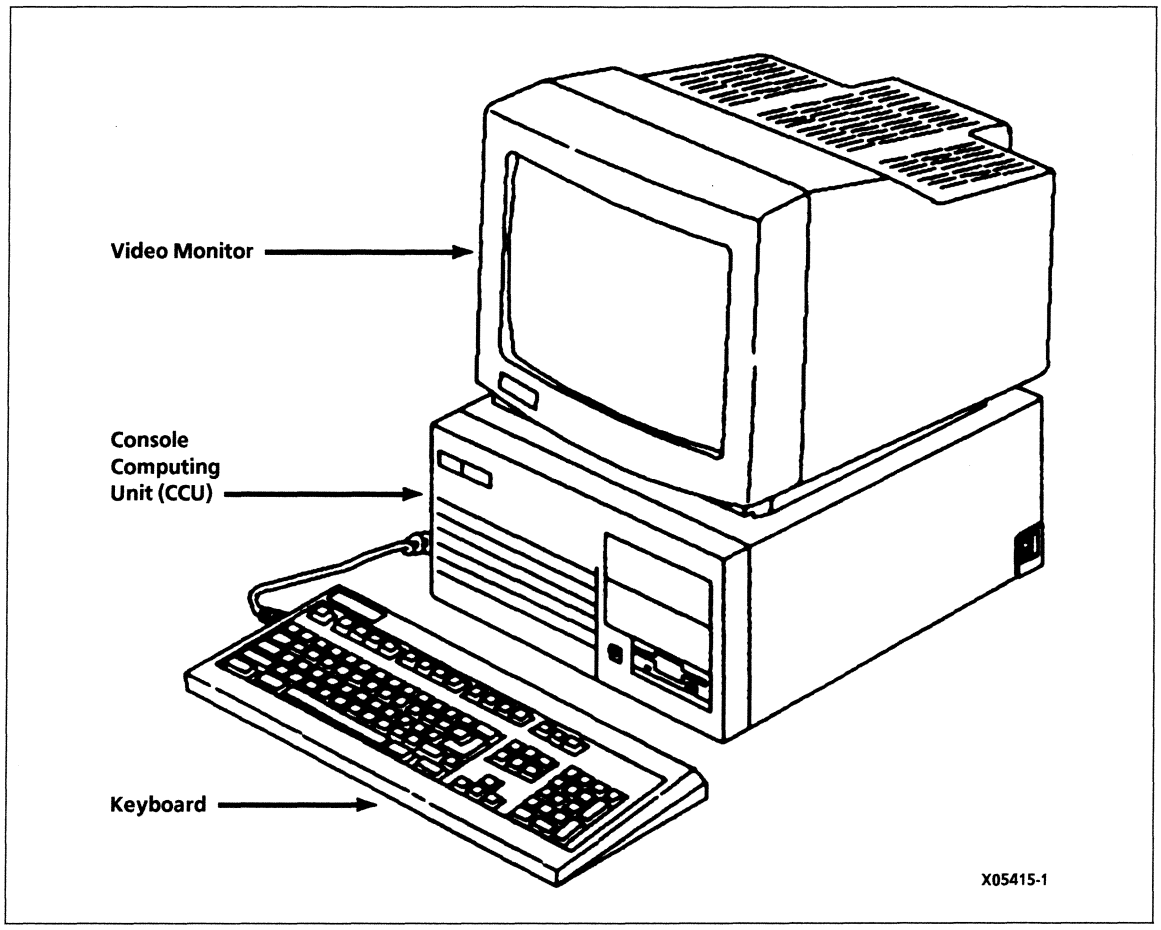

Figure 1-2. 19003-4/5 System Console

System Console Functions and Features

The CYBER operating systems use the console display to bring information to the operator's attention. The console keyboard is used to enter responses or instructions to the computer system software.

The format of the information displayed and the commands entered vary according to the software currently being executed. The system console contains software for initializing the input/output unit (IOU) two-port multiplexer (TPM) microcode interfacing to Common Test and Initialization (CTI), for interfacing with the Network Operating System/Virtual Environment (NOS/VE) and the Network Operating System (NOS), and for the Common Maintenance Software Executive (CMSE). Before system initialization, the operator can use the console to interface to the TPM maintenance utilities.

Specific features supported by the system console include:

- NOS/VE support
- NOS support (applies to CC598-B/E only)
- CC545 DEADSTART button support (applies to CC598-B/E only)
- Maintenance support
- Remote link support
- Print display (optional)
- CIP library (CIP device) support (applies to CC598-A/D only)
- Environment power monitor support

NOS/VE Support

The system console supports NOS/VE System Console Interface (SCI) operations. Refer to the NOS/VE System Usage manual listed in About This Manual for specific information about keyboard assignments and displays.

NOS Support (Applies to CC598-B/E only)

The CC598-B/E system console supports NOS SCI operations. Refer to the NOS Version 2 Operations Handbook listed in About This Manual for specific information about keyboard assignments and displays.

CC545 DEADSTART Button Support (Applies to CC598-B/E only)

See CC545 Console Support in chapter 2.

Maintenance Support

The system console supports CTI, the Maintenance Software Library (MSL) and TPM maintenance activities.

- Refer to the appropriate CYBER Initialization Package (CIP) reference manual listed in About This Manual for CTI information.
- Refer to the MSL 153/155 CYBER 96X Test Procedures Reference Manual listed in About This Manual for specific keyboard assignments and displays.
- Refer to TPM Deadstart Display Features in the Standard Maintenance Approach and Quick Reference (SMAQR) Manual, Volume 2, listed in About This Manual for TPM maintenance activities for all computer systems except the CYBER 960/962 Computer System. For these systems, refer to the CYBER 960/962 System Troubleshooting Guide listed in About This Manual.

Remote Link Support

The system console supports a remote link access port for maintenance support only, which is port 2 of the Multiport Network Adapter. This is an RS-232-C serial port available for the attachment of a modem allowing remote link access and remote operation. It must be a Hayes compatible modem, such as a Multitech 224E, or equivalent, to support remote link operations. A Control Data serial cable, P/N 67185786, should be used to connect the modem to the console's RS-232-C serial port. Access to the system via the remote link is controlled by the use of passwords and privileges. Only a Control Data 721 (CC634-B) terminal may be connected to the remote link as a remote terminal. For a description of remote link support, refer to Part I (chapter 2) Remote Link (L) Options Display.

Enable/Disable Remote Link

An enable/disable state is used to accept incoming calls. In an enabled state, incoming calls are serviced by the system console. In a disabled state, incoming calls are not honored. The system console will not answer the telephone when the remote link is disabled. The following events can change the state of the remote link.

- The operator enables the remote link via a console command. This allows a remote user (such as a customer engineer) to access the system via the remote link. The system console automatically disables the remote link after 20, 60, or 120 min if no activity is detected after the enable. The time is selectable.
- The operator disables the remote link via console command. This prevents remote users from using the remote link to access the system. If a user is logged in when the remote link is disabled, the user will be allowed to continue the session.
- The console automatically disables the remote link when a remote user is unable to provide a valid remote access password and/or telephone number after three attempts.

Console Password

The system console software password (not to be confused with the Zenith configuration/setup password) is used to control access to privileged console operations. Privileged operations include:

- Changing the remote access password
- Changing the console password

After selecting a privileged operation from the Console Utilities display, the operator is prompted for the console password. The operator is not allowed to perform the privileged operation until the console password has been correctly entered.

The console password consists of 1 to 15 alphanumeric characters. (Alphanumeric characters consist of the upper and lower case characters A through Z and the numbers 0 through 9.)

The customer can disable the console password by setting it to Null. When the console password is set to Null, the console operator is able to perform privileged console operations without being prompted for a console password. The released default value for the console password is Null. For security reasons, the console has no provisions to display the console password.

Remote Access Password

The remote access password is used to control access to the system via the system console remote link. A remote user is prompted for the remote access password before being allowed access to the system.

The remote access password consists of 1 to 15 alphanumeric characters. (Alphanumeric characters consist of the upper and lower case characters A through Z and the numbers 0 through 9.)

The customer can disable the remote access password by setting it to Null. When the remote access password is set to Null, the remote link user is not prompted for a remote access password when being validated. The released default value for the remote access password is Null. For security reasons, the console has no provisions to display the remote access password. Changing the remote access password is a privileged console operation which is controlled by the console password. No knowledge of the old remote access password is required to create a new remote access password.

Print Display (Optional)

The system console allows printing the contents of the current static monitor display on an optional printer if attached to the system console.

NOTE

The Print Display feature may be used to capture dynamic display information, except in the case where the displaying program is making extensive use of the CIP library device in the CC598-A/D console, such as CMSE. Use of the Print Display feature in this situation may result in an error condition, therefore, it is recommended that the Print Display feature be used only to capture static display conditions.

If Long Deadstart is selected from the Maintenance Options display on a dual IOU system, Print Screen is disabled while Long Deadstart is executing on the secondary IOU.

CIP Library Support (Applies to CC598-A/D only)

The CC598-A/D system console contains a large capacity disk on which the CIP libraries reside. This disk is referred to as the library device, CIP device, or CIP disk.

The console supports up to two unique CIP libraries called partitions. The console allows the operator or the remote user to select one of the CIP libraries via a console menu display. Refer to the appropriate CIP reference manual listed in About This Manual for CIP installation procedures. Refer to Select CIP Partition(s) Option under Maintenance Options in chapter 2 for instructions on how to select CIP Partitions.

Environment Power Monitor (EPM) Support

The system console provides support to enable system communication with the EPM for processing of environmental conditions.

Operator Controls and Displays 2

Console Computing Unit (CCU) 2-2

Monitor 2-6

Keyboard 2-8

Console Displays 2-12

Control Data Copyright Display 2-16

Console Main Menu 2-17
- System Load Options (S) (Applies to CC598-B/E only) 2-19
- System Load Options (S) (Applies to CC598-A/D only) 2-20
- Maintenance Options (M) 2-21
  - Select CIP Partition (S) Option (Applies to CC598-A/D only) 2-23
    - Select CIP Partition With Console Password Active 2-24
    - Select CIP Partition With Null Console Password 2-25
  - Install/Update CIP (I) Option (Applies to CC598-A/D only) 2-26
  - Offline Maintenance – IOU-1 (M) Option (Applies to CC598-A/D only) 2-27
  - IOU/Peripheral Tests (T) Option (Applies to CC598-A/D only) 2-27
- Console Utilities (C) 2-29
  - Remote Link (L) Options Display 2-30
  - Remote Link Privileges 2-31
    - Maintenance Privileges 2-31
    - Console Privileges 2-31
  - Remote Link Messages 2-32
  - Terminate Remote Link (T) 2-32
  - Modify Remote Access Password (R) 2-32
  - Modify Console Password (P) 2-35
  - Shutdown Console (S) 2-37
  - Set Communication Parameters (C) 2-37
    - Baud Rate 2-40
    - Parity 2-40
    - Word Length 2-40
    - Stop Bits 2-40
    - Modem Initialization String 2-40
  - Change Display Colors (D) 2-41

Console Help Display 2-42

CC545 Console Support 2-42

Operator Controls and Displays 2

This chapter illustrates and describes the controls and indicators of the individual system console components. These components are as follows.

- Console Computing Unit (CCU)
- Keyboard
- Monitor

Console Computing Unit (CCU)

The console computing unit (CCU) is the central processing unit of the system console. Figures 2-1 and 2-2 illustrate the backpanel of the CC598-A/B and CC598-D/E CCU, respectively.

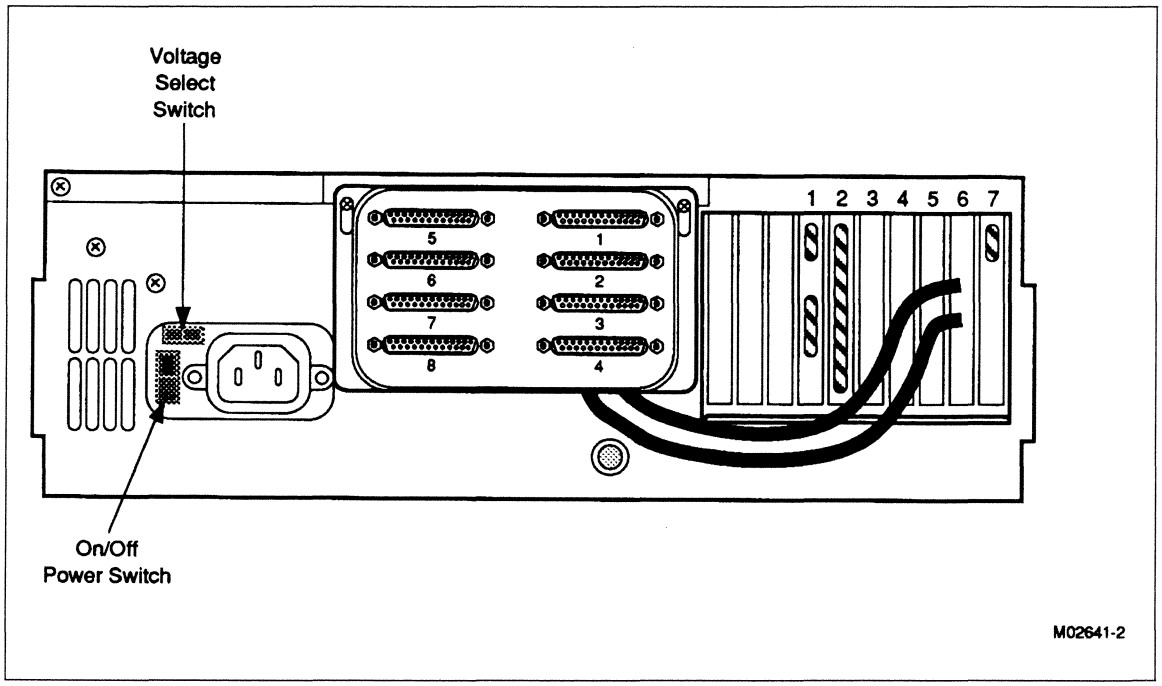

Figure 2-1. CCU Backpanel (CC598-A/B)

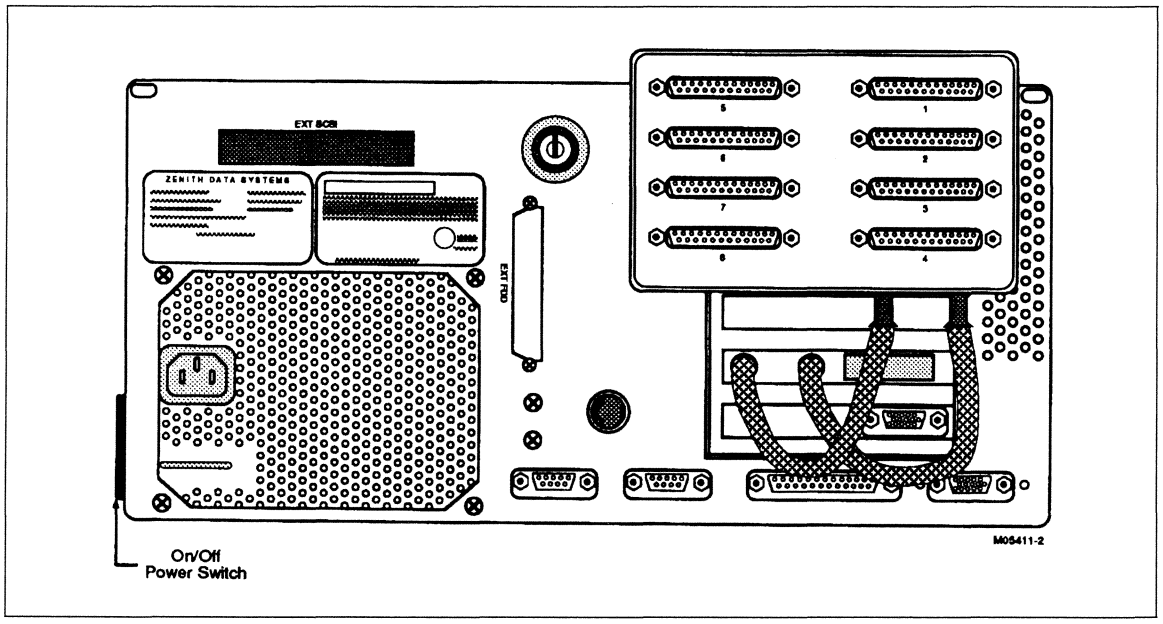

Figure 2-2. CCU Backpanel (CC598-D/E)

Table 2-1 describes the function of CCU backpanel controls. Refer to Console Installation in Part II (chapter 4) of this manual for a description of the backpanel connectors.

Table 2-1. CCU Backpanel Controls (CC598-A/B and CC598-D/E)

Panel Nomenclature	Description	Function
115V/230V	Voltage Select Switch	Selects between a device input power of 115 V ac or 230 V ac. Only qualified technicians should change the setting of this switch. When the line voltage is changed, the power cord plug must also be changed to the proper type and voltage rating.
None	On/Off Power Switch	Controls application of selected ac line voltage to the system console.

Figures 2-3 and 2-4 illustrate the frontpanel of the CC598-A/B and CC598-D/E CCU, respectively. A description of frontpanel indicators is provided in table 2-2.

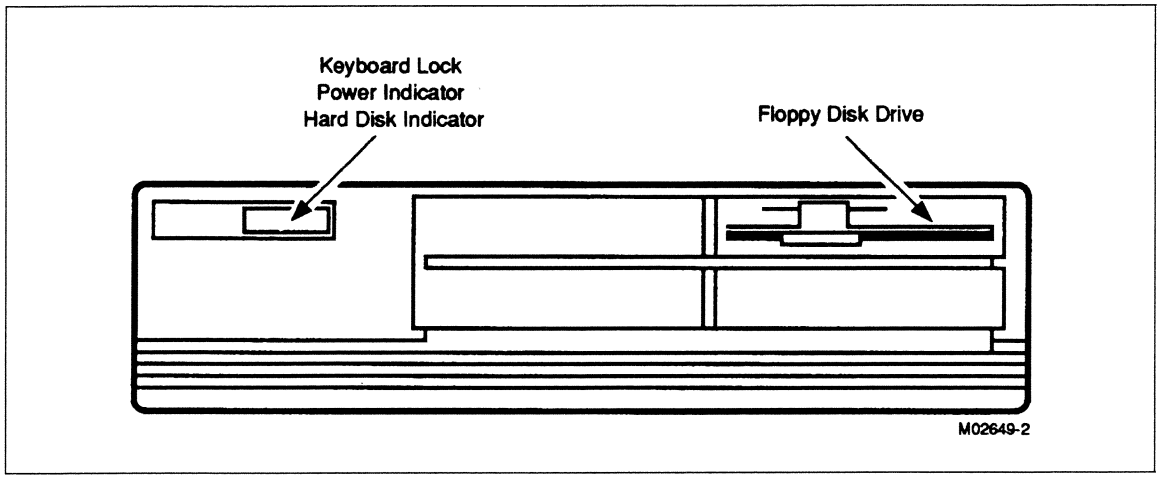

Figure 2-3. CCU Frontpanel (CC598-A/B)

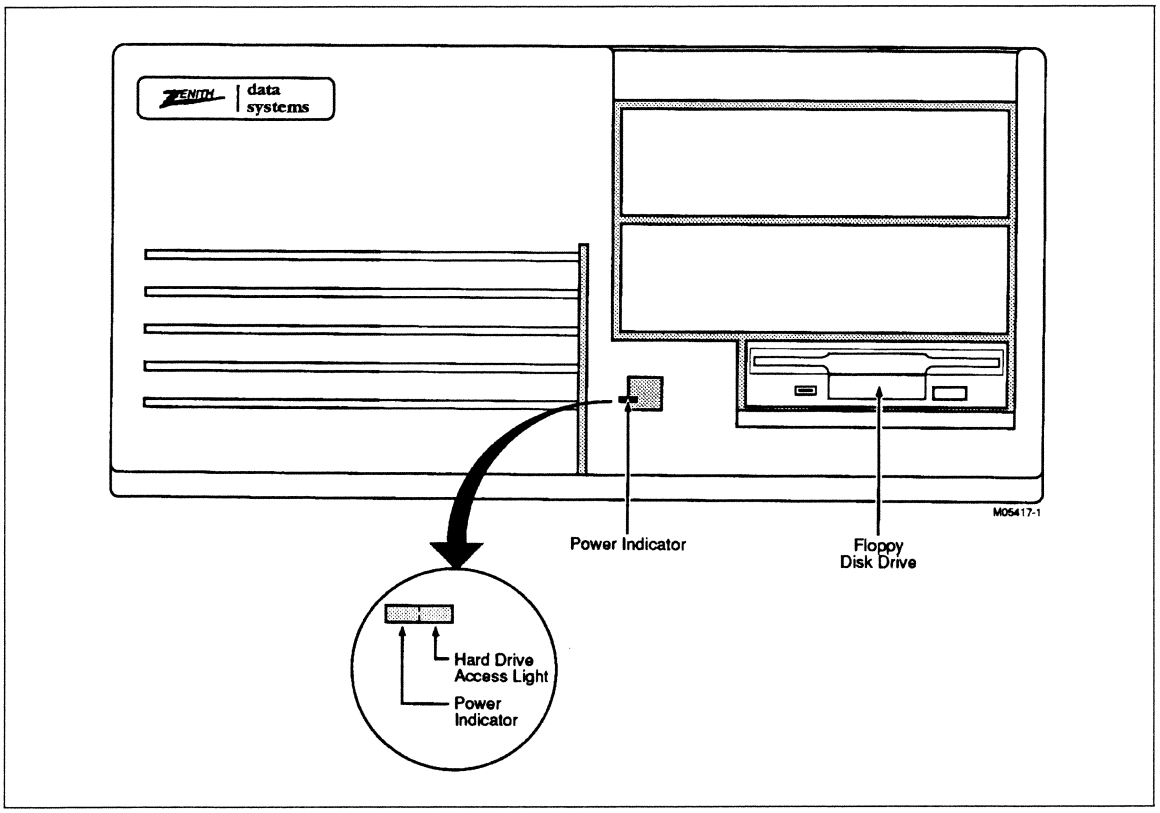

Figure 2-4. CCU Frontpanel (CC598-D/E)

Table 2-2. CCU Frontpanel Controls

Panel Nomenclature	Description	Function
None	Keyboard Lock Key Switch	When the key is in the clockwise position, the computer console is fully operational. With the key in the locked (counterclockwise) position, the keyboard is disabled, the key can be removed, and the chassis cover is locked to the chassis.
Light symbol	Power Indicator	Indicates when power has been applied to the CCU.
Lock symbol	Hard Disk Access Indicator	Indicates that either a read or a write operation is being performed on the hard disk.
None	Floppy Disk Access Indicator	Indicates that either a read or a write operation is being performed on the floppy disk.
None	Disk Load Slot	The floppy disk is inserted in this slot. If the disk is not oriented correctly, the unit will not operate properly and the disk or disk drive may be damaged.
None	Disk Drive Latch	When closed, the latch engages the drive hub into the disk and allows the drive to operate.

Monitor

The console monitor displays messages from the operating system and information entered by an operator via the console keyboard.

Controls located on the side (figure 2-5) and rear (figure 2-6) of the console monitor affect application of power to the monitor and the appearance of the displayed information. A description of monitor controls is provided in table 2-3. Refer to the user's guide for your video monitor listed in About This Manual for information on how to adjust these controls properly.

Table 2-3. Monitor Controls

Panel Nomenclature	Description	Function
None	Contrast Control	Varies constrast between display image and display background.
None	Brightness Control	Varies brightness of display background.
On/Off	On/Off Power Switch	Applies or removes monitor operating power.
115V/230V	Voltage Select Switch	Selects between an input power of 115 V ac or 230 V ac. Only qualified technicians should change the setting of this switch. When the line voltage is changed, the power cord plug must also be changed to the proper type and voltage rating.
H. Width	Control	Controls the width of the display. To decrease the desired display width, turn the control clockwise. To increase the display width, turn the control counterclockwise.
H. Phase	Control	Adjusts the horizontal (left-to-right) position of the display. To move the display to the right, turn this control clockwise. To move the display to the left, turn the control counterclockwise.
V. Size	Control	Controls the height of the display. To decrease the display height, turn this control clockwise. To increase the display height, turn this control counterclockwise.
V. Centering	Control	Adjusts the vertical position of the display. To move the display downward, turn this control clockwise. To move the display upward, turn this control counterclockwise.

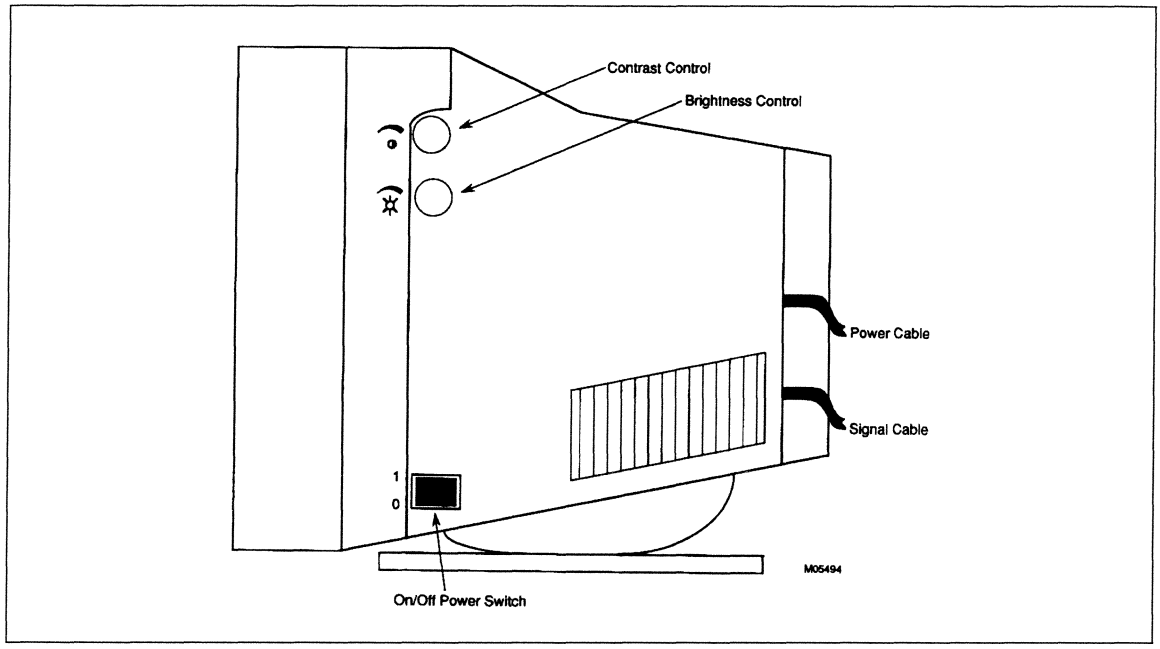

Figure 2-5. Monitor (Side View)

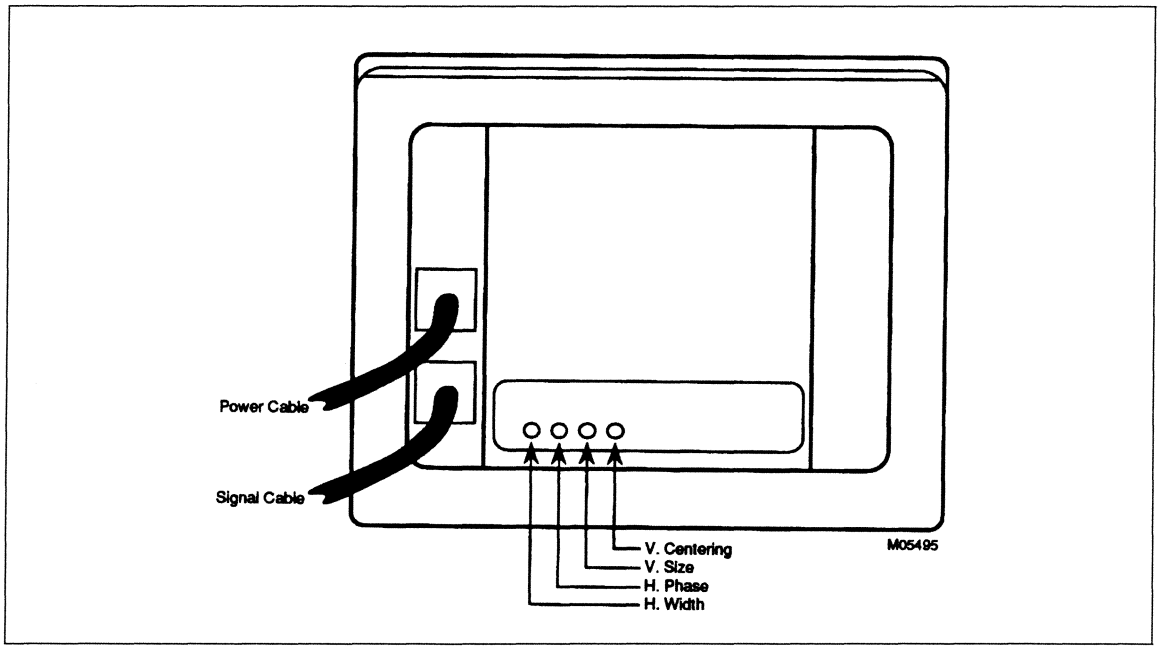

Figure 2-6. Monitor (Rear View)

Keyboard

The console keyboard (figure 2-7) enables a number of functions as defined in tables 2-4 through 2-6. Refer to the appropriate manual for keyboard definitions specific to the applications such as CTI, CMSE, Diagnostics, and so on.

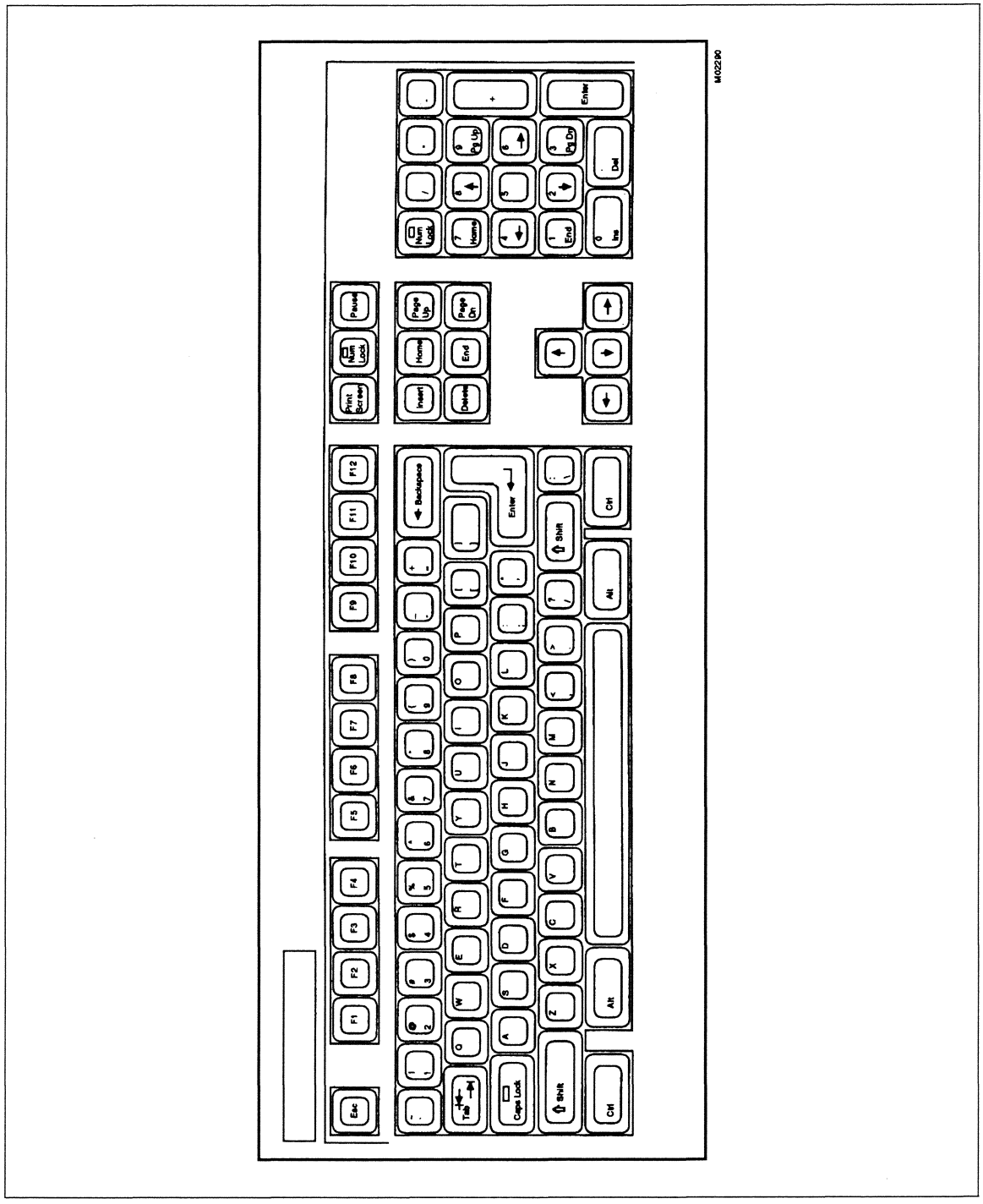

Figure 2-7. Console Keyboard

The key entry combinations that affect system console initialization or operation are listed in table 2-4. Regardless of the current application, these operations are performed immediately after the key combinations are entered.

NOTE

An alarm sounds if you press an invalid key.

Table 2-4. Keyboard Functions

Key Combinations	Function
Ctrl-Alt-Del	Reinitializes (resets) the system console.
Ctrl-F2 or **Ctrl-G**	Returns the system console to Console Main Menu unless in Console Utilities display.
Print Screen	Prints contents of console display (static only) to optional printer attached to console. If Long Deadstart is selected from the Maintenance Options display on a dual IOU system, the Print Screen feature is disabled while Long Deadstart is executing on the secondary IOU.
Ctrl-Alt-Ins	Returns the console to the Zenith MFM-200 system prompt (→). The console is now in manual mode and you can use it for running diagnostic programs.

The keys used in combination with the **Ctrl** key and the operations that result from these entries are listed in table 2-5.

NOTE

1. The function keys in table 2-5 are not valid on any menu items in the Console Utilities display.
2. If the operating system or CMSE is not running, depressing keys **Ctrl-F5** or **Ctrl-F6**, respectively, produces a blank screen.

Table 2-5. Use of Function Keys

Key Combination	Function
Ctrl-F1	Causes the Console Help display to appear on the monitor.
Ctrl-F2	Returns the system console to the Console Main Menu.
Ctrl-F3	Allows the TPM-0 Maintenance Options-IOU0 display to appear on the monitor.
Ctrl-F4	Allows the TPM-1 Maintenance Options-IOU1 display to appear on the system console.
Ctrl-F5	Selects system displays on the system console monitor. The display information is obtained from port 0 of the TPM in IOU0 and is valid on the system console only. This key is not valid on the remote console. This key produces a blank screen if no operating system is running.
Ctrl-F6	Enables the CMSE display to appear on the console. (CMSE must be loaded into IOU1.) This key produces a blank screen if CMSE is not running in IOU1.
Ctrl-F10	Terminates the remote link. This key is not valid on the remote console.

The keys used for editing in special applications are listed in table 2-6. These keys typically provide menu editing capabilities for options where character strings are to be typed in (for example, setting communication parameters and changing passwords).

Table 2-6. Use of Editing Keys

Key	Editing Capability
Ins	Toggles insert and overwrite modes. In overwrite mode, characters are overwritten by user inputs. In insert mode, characters typed are inserted to the right of the cursor.
Del	Deletes the character over the cursor moving all characters to the right of the cursor one position to the left.
Backspace	Erases the character to the left of the cursor, the last character entered. Moves cursor left one position and erases character in that position.
Left arrow (←)	Moves the cursor to the left one position.
Right arrow (→)	Moves the cursor to the right one position.
Ctrl-Home	Clears the field and sets the cursor to the first character position.
Ctrl-End	Clears the field from the cursor position to the end of the field.
Enter/Return	Processes the new parameter options and returns to the Console Utilities display.

NOTE

When editing menu fields (such as passwords), you must delete all unwanted characters to the right of the cursor by entering the **Ctrl-End**. Otherwise, characters to the right of the cursor are included as part of the field.

Console Displays

When you apply power to the CCU (or reinitialize the CCU), the Control Data Copyright display appears, followed by initialization messages and the Console Main Menu. The Console Main Menu then leads to subsequent menus and displays via a list options. Figures 2-8 through 2-11 provide an overview of this display structure. Descriptions and illustrations of the individual displays and the operations they perform are described later in this chapter.

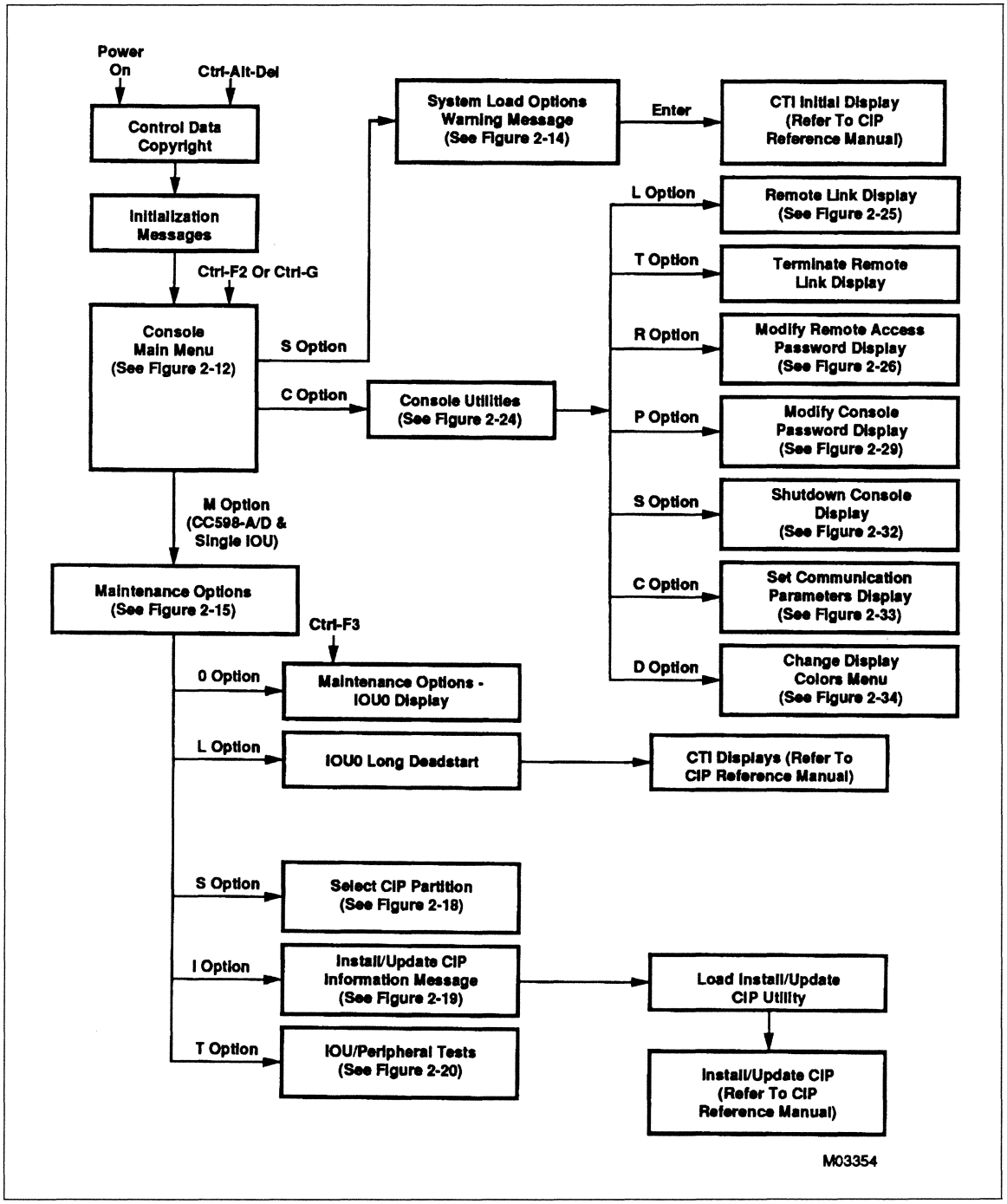

Figure 2-8. Overview of CC598-A/D Single IOU Displays

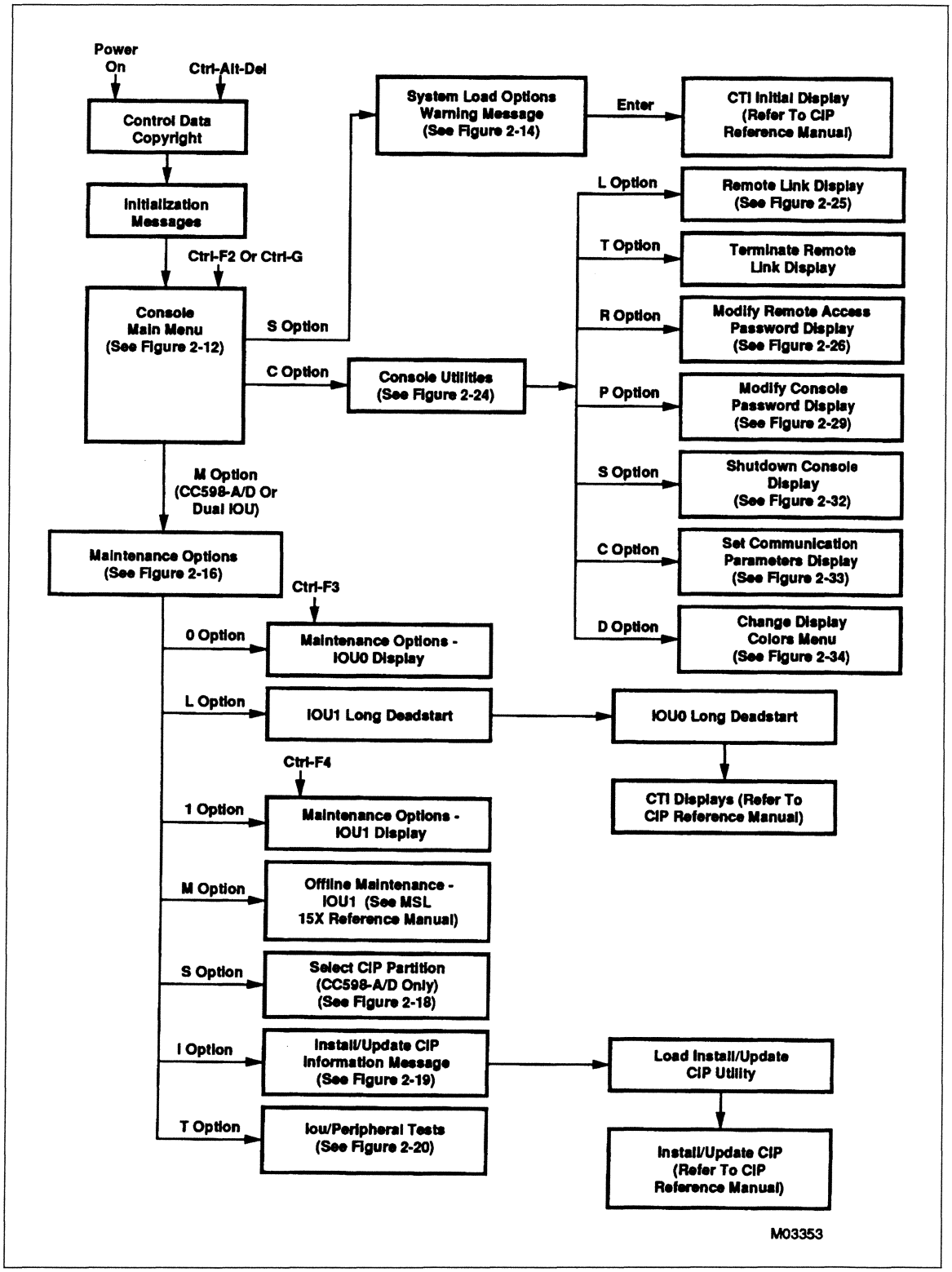

Figure 2-9. Overview of CC598-A/D Dual IOU Displays

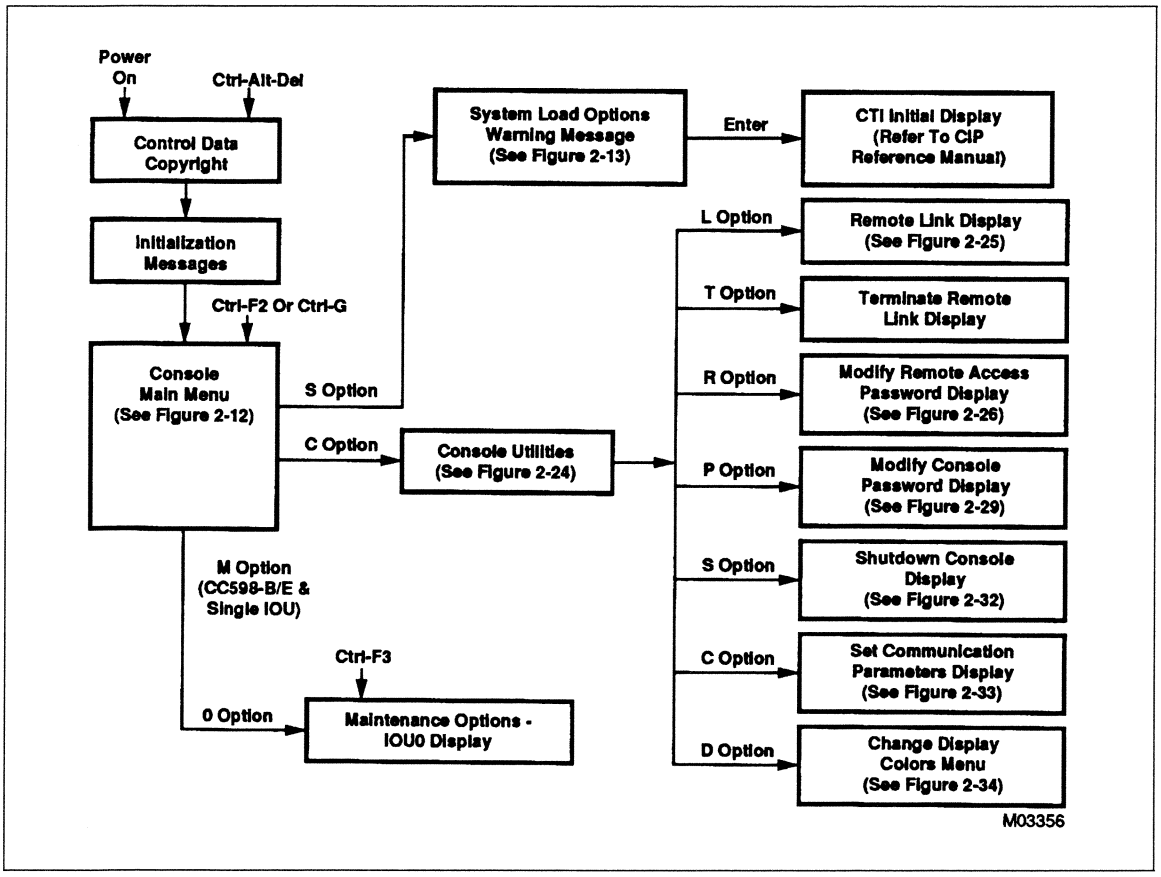

Figure 2-10. Overview of CC598-B/E Single IOU Displays

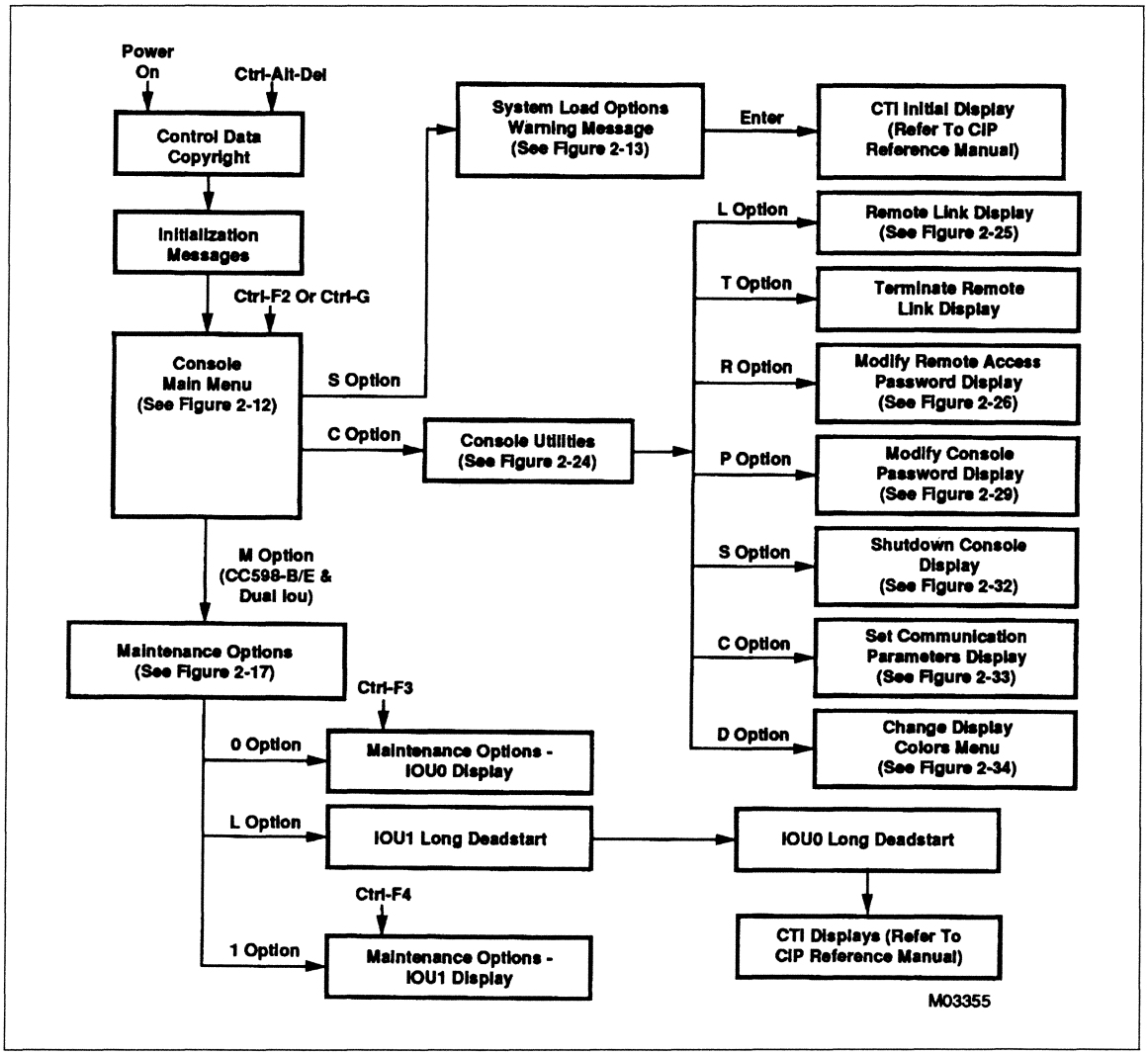

Figure 2-11. Overview of CC598-B/E Dual IOU Displays

Control Data Copyright Display

The Control Data logo and copyright information is displayed when any of the following actions are executed.

- Power is applied to the system console.
- The **Ctrl**, **Alt** and **Del** keys are pressed simultaneously (**Ctrl-Alt-Del**).
- A new version of system console software is installed by reinstalling system console software. See Reinstalling/Upgrading System Console Software in chapter 3.

The copyright display remains on the console monitor for approximately 10 seconds before the Console Main Menu appears.

Console Main Menu

The Console Main Menu (figure 2-12) appears after powering up or reinitializing the system console. Pressing either of the following keys brings up the Console Main Menu during console operation.

- **Ctrl-F2.**
- **Ctrl-Alt-Del.**
- **Esc** key when the Maintenance Options, Console Utilities, or System Load Options display is active.

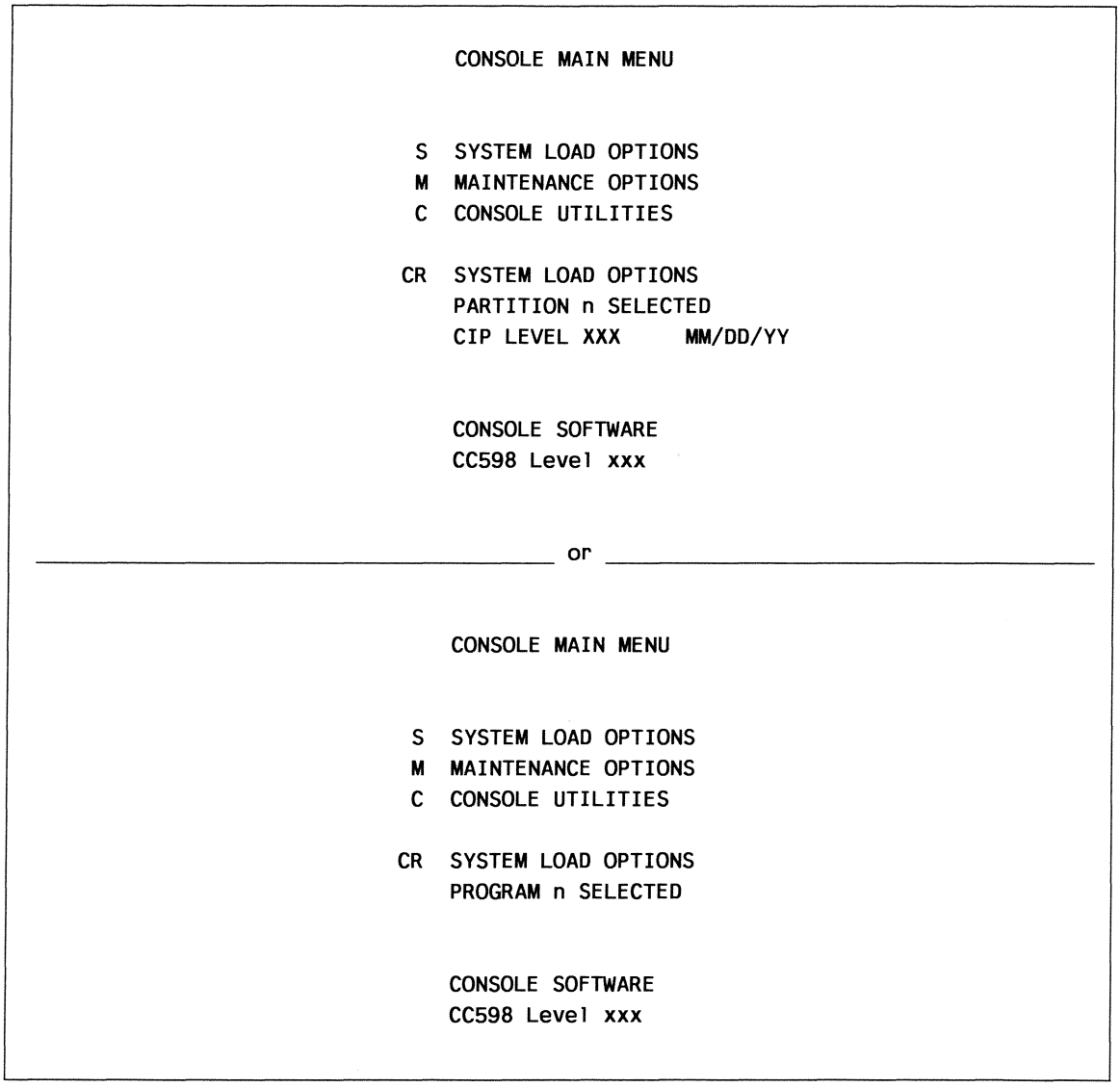

Figure 2-12. System Console Main Menu

To select a display option, press the appropriate key as indicated by the following table.[1]

Entry	Key
System Load Options	**S** or **Enter**
Maintenance Options	**M**
Console Utilities	**C**

PROGRAM n SELECTED refers to one of eight optional TPM deadstart programs which can be selected. A program remains in operation until reselected (applies to CC598-B/E only).

PARTITION n SELECTED refers to one of two CIP partitions (libraries). A partition remains selected until deselected via the maintenance utilities menu (applies to CC598-A/D only). The CIP level number and CIP creation date are also displayed, if CIP has been installed.

1. The selected entry on a menu or display is highlighted on the system console monitor.

System Load Options (S) (Applies to CC598-B/E only)

Selecting the System Load Options directs the CC598-B/E console to execute the selected deadstart PROGRAM n in the TPM. If this program is set up to access the CIP device, the next display will be the initial CTI display. See the appropriate CIP reference manual listed in About This Manual for more information about loading CIP. See the Warning message display shown in figure 2-13.

NOTE

To bring up CMSE in the secondary IOU (IOU1) from a CC598-B/E system console, enter the appropriate program into the IOU1 TPM deadstart panel.

From the console Main Menu, type:

```
<M>
<1>
<S> or <L>
```

```
                    SYSTEM LOAD OPTIONS

                    PROGRAM n SELECTED


     WARNING:

     The SYSTEM LOAD OPTIONS menu option has been selected. This
     option allows the user to initialize the system.

     Current system activity will be terminated by proceeding with
     this option!  If destroying system activity is not intended,
     do not proceed with this option.

     Proceeding with this option will allow the user to bring up
     utilities to load system software.

     Enter: CONTINUE WITH SYSTEM LOAD OPTIONS

     Esc:   RETURN TO CONSOLE MAIN MENU
```

Figure 2-13. System Load Option Warning Display – CC598-B/E

System Load Options (S) (Applies to CC598-A/D only)

Selecting the System Load Options directs the CC598-A/D console to load and execute CTI from partition n of the CIP device. Refer to the appropriate CIP reference manual listed in About This Manual for more information about loading CIP. See the Warning message display shown in figure 2-14.

NOTE

To bring up CMSE in the secondary IOU (IOU1) from a CC598-A/D system console, select the appropriate CIP partition.

From the console Main Menu, type:

```
<M>
<M>
```

```
                    SYSTEM LOAD OPTIONS

PARTITION n SELECTED              CIP LEVEL XXX     MM/DD/YY


WARNING:

The SYSTEM LOAD OPTIONS menu option has been selected.  This
option allows the user to initialize the system.

Current system activity will be terminated by proceeding with
this option!  If destroying system activity is not intended,
do not proceed with this option.

Proceeding with this option will allow the user to bring up
utilities to load system software.

Enter: CONTINUE WITH SYSTEM LOAD OPTIONS

Esc:   RETURN TO CONSOLE MAIN MENU
```

Figure 2-14. System Load Option Warning Display – CC598-A/D

Maintenance Options (M)

Selection of Maintenance Options from the Console Main Menu brings up the display in figure 2-15, 2-16, or 2-17. Press **M** when the system console Main Menu is displayed to display Maintenance Options. This display appears on the CC598-A/D in a single IOU system.


```
                    MAINTENANCE OPTIONS


          L     SYSTEM LOAD WITH LDS
          0     MAINTENANCE OPTIONS - IOU0
          S     SELECT CIP PARTITION
          I     INSTALL/UPDATE CIP
          T     IOU/PERIPHERAL TESTS


        Esc:  RETURN TO CONSOLE MAIN MENU
```

Figure 2-15. Maintenance Options Display for CC598-A/D (Single IOU System)

This display appears on the CC598-A/D console in a dual IOU system.

```
                    MAINTENANCE OPTIONS


          L     SYSTEM LOAD WITH LDS
          0     MAINTENANCE OPTIONS - IOU0
          1     MAINTENANCE OPTIONS - IOU1
          S     SELECT CIP PARTITION
          I     INSTALL/UPDATE CIP
          M     OFFLINE MAINTENANCE - IOU1
          T     IOU/PERIPHERAL TESTS


        Esc:  Return to Console Main Menu
```

Figure 2-16. Maintenance Options Display for CC598-A/D (Dual IOU System)

This display appears on the CC598-B/E console in a dual IOU system:

```
                    MAINTENANCE OPTIONS


              L     SYSTEM LOAD WITH LDS
              0     MAINTENANCE OPTIONS - IOU0
              1     MAINTENANCE OPTIONS - IOU1


           Esc:  Return to Console Main Menu
```

Figure 2-17. Maintenance Options Display for CC598-B/E (Dual IOU System)

To select an entry in the display, press the appropriate key.

Entry	Key
System Load with LDS	**L**
Maintenance Options – IOU0	**0**
Maintenance Options – IOU1	**1**
Select CIP Partition	**S** (applies to CC598-A/D only)
Install/Update CIP	**I** (applies to CC598-A/D only)
Offline Maintenance – IOU1	**M** (applies to CC598-A/D only)
IOU/Peripheral Tests	**T** (applies to CC598-A/D only)

System Load with LDS (L)

NOTE

This menu option is to be used by Control Data support personnel and is not intended for customer use. (EDS4 can be executed by ensuring that the least significant bit [2^0 or 2^{**0}] in word 12 of the deadstart program is set.)

Selection of the System Load with LDS (Long Deadstart, containing additional diagnostics) option causes the system to proceed with the deadstart process. This option is identical to the System Load option except that IOU Long Deadstart diagnostic is executed first in the secondary IOU and then on the primary IOU. While these diagnostics are executing, the long deadstart maintenance options display from the TPM appears. Refer to the appropriate CIP reference manual listed in About This Manual for additional information. When the Long Deadstart diagnostic executes in the secondary IOU, the program block (deadstart panel) is not displayed.

Prior to the above operation, the appropriate deadstart program must be selected in the primary IOU (IOU0) TPM on a CC598-B/E or the appropriate CIP partition for the CC598-A/D. This option will not alter the deadstart program or the CIP partition number.

Maintenance Options – IOU0 (0) Option

NOTE

This menu option is to be used by CDC support personnel and is not intended for customer use. For more information about this display, refer to the Maintenance Software Library (MSL) 15X Offline Reference Manual listed in About This Manual.

Press key **0** to display the Maintenance Option – IOU0 display.

Maintenance Options – IOU1 (1) Option

NOTE

This menu option is to be used by CDC support personnel and is not intended for customer use. For more information about this display, refer to the MSL reference manual listed in About This Manual.

Press key **1** to display the Maintenance Option – IOU1 display.

Select CIP Partition (S) Option (Applies to CC598-A/D only)

The selection of the Select CIP Partition option will cause the Select CIP Partition display in figure 2-18 to appear. This display allows the operator or remote user to select the CIP partition that will be used to install CIP to or deadstart the system.

This option is available on the CC598-A/D Console only.

Select CIP Partition With Console Password Active

If a console password has been entered for the system and the Select CIP Partition option has been selected at the Maintenance Options display (figure 2-15 or 2-16), the user is prompted for entry of the console password. The following message appears if another terminal is not in the process of entering a password.

```
ENTER CONSOLE PASSWORD FOR SERVICE:
```

After correct entry of the console password, the Select CIP Partition display (figure 2-18) appears.

```
                    SELECT CIP PARTITION

        CIP            ACTIVE          CIP
    PARTITION           CIP           LEVEL

        1                *          nnnn mm/dd/yy
        2                *          nnnn mm/dd/yy

      PRESS 1/2 TO SELECT THE CIP PARTITION

    Esc: Return to Maintenance Options Display
```

Figure 2-18. Select CIP Partition Display (Applies to CC598-A/D only)

If another terminal is in the process of entering a password, the console displays the following message.

```
SELECT CIP PARTITION MENU PASSWORD PROMPT IN USE.
PLEASE WAIT.
```

When the other terminal is done with the password entry, the above message appears.

```
ENTER CONSOLE PASSWORD FOR SERVICE.
```

If the user enters the wrong password, the following messages appear.

```
INCORRECT PASSWORD ENTERED.
PLEASE TRY AGAIN.

ENTER CONSOLE PASSWORD FOR SERVICE:
```

If the user could not successfully enter the correct password within the retry limit (3 times) the following message appears.

```
INCORRECT PASSWORD ENTERED.  NO MORE RETRIES ALLOWED.
ENTER CTRL-F2/CTRL-G TO RETURN TO CONSOLE MAIN MENU.
```

Select CIP Partition With Null Console Password

The Select CIP Partition display (figure 2-18) appears if the Select CIP Partition option is selected on the Maintenance Options display and the Console Password is either NULL or the user has entered the correct password.

To select a new CIP partition press **1** for CIP partition one and **2** for CIP partition 2. Press **Esc** to return to the Maintenance Options display.

The format of the Select CIP Partition display consists of three columns as follows:

CIP PARTITION n	This column identifies one of two partitions (n= 1 or 2). Partitions are logical areas into which CIP libraries can be installed. The CC598-A/D reserves room for two unique CIP libraries.
ACTIVE CIP	This column identifies which CIP is currently selected. An asterisk (*) in this position indicates the partition number to the left is active.
CIP LEVEL	This is the current level and creation date (nnnn mm/dd/yy) of the CIP contained on partition n. If the selected partition n does not contain a copy of CIP, then the word NONE is used instead of the level/date. The date is obtained from the 77 table of the IDC record.

Install/Update CIP (I) Option (Applies to CC598-A/D only)

Selection of the Install/Update CIP option allows the operator to install a new CIP to the CIP library device. The partition to which CIP is installed must be selected via the Select CIP Partition option (figure 2-18). Refer to the appropriate CIP reference manual listed in About This Manual for further information about this option. Prior to loading the Install/Update CIP utility, the system console posts an information message alerting the user as to what CIP Partition is currently selected, the CIP level number and the CIP creation date, together with the available options.


```
                        INSTALL/UPDATE CIP

Partition n selected              CIP Level XXX     mm/dd/yy


The option to install/update CIP has been selected.
This utility requires dedicated access to the mainframe.

Current system activity will be terminated by proceeding
with this option.

ENTER: LOAD UTILITY

Esc:   RETURN TO MAINTENANCE OPTIONS DISPLAY
```

Figure 2-19. Install/Update CIP (Applies to CC598-A/D only)

NOTE

This feature is not supported on the remote links.

Offline Maintenance – IOU-1 (M) Option (Applies to CC598-A/D only)

Press **M** to bring up Offline Maintenance in IOU-1. This deadstarts IOU-1 for CMSE load only.

IOU/Peripheral Tests (T) Option (Applies to CC598-A/D only)

Selection of the IOU/Peripheral Test option brings up the IOU/Peripheral Test Menu as shown in figure 2-20.


```
                    IOU/PERIPHERAL TESTS


              A     TEST 5698 TAPE SUBSYSTEM
              T     TEST IOU0 SCSI ADAPTER
              U     TEST IOU1 SCSI ADAPTER


           Esc:  RETURN TO MAINTENANCE OPTIONS MENU
```

Figure 2-20. IOU/Peripheral Tests Display for CC598-A/D

Selection of Test A in the menu verifies that the 5698 Tape Subsystem is connected to the mainframe and is capable of installing the contents of the CIP tape to the hard disk in the system console. The display in figure 2-21 appears.

```
                    TEST 5698 TAPE SUBSYSTEM


          The option to test the 5698 Tape Subsystem has been selected.
          This requires dedicated access to the mainframe.

          Current system activity will be terminated by proceeding
          with this option.


          Enter:  LOAD TEST

          Esc:    RETURN TO IOU/PERIPHERAL TESTS DISPLAY
```

Figure 2-21. Test 5698 Tape Subsystem (Applies to CC598-A/D only)

Selection of the Test T or U in the menu runs a confidence test on the SCSI adapter in the IOU. Since this test initiates a deadstart of the system, it prompts the operator for a verification before proceeding. The display in figure 2-22 or 2-23 appears.

```
                    TEST IOU 0 SCSI ADAPTER


        The option to test the SCSI adapter has been selected.
        This test requires dedicated access to the mainframe.

        Current system activity will be terminated by proceeding
        with this option.


        Enter: LOAD TEST

        Esc:   RETURN TO IOU/PERIPHERAL TESTS DISPLAY
```

Figure 2-22. Test IOU 0 SCSI Adapter Display (Applies to CC598-A/D only)

```
                    TEST IOU1 SCSI ADAPTER


      The option to test the SCSI Adapter has been selected.
      This test requires dedicated access to the secondary IOU.

      Current activity on the secondary will be terminated by proceeding
      with this option.


      Enter: LOAD TEST

      Esc:   RETURN TO IOU/PERIPHERAL TESTS DISPLAY
```

Figure 2-23. Test IOU1 SCSI Adapter Display (Applies to CC598-A/D only)

NOTE

After running the SCSI Adapter test, press **Ctrl-F2** to return to the Console Main Menu.

Console Utilities (C)

Selection of the Console Utilities display brings up six selections as shown in figure 2-24. Each selection can be accessed by pressing the corresponding key. These selections appear on the system console only, and do not appear on the remote link console. The Console Utilities display contains a status message line about the current activity. These self-explanatory messages notify the user of current operations within the console. **Ctrl-Fx** key sequences are not allowed in these menus.

Selection of Console Utilities (C) displays the menu in figure 2-24.

```
                        CONSOLE UTILITIES

                L   REMOTE LINK OPTIONS
                T   TERMINATE REMOTE LINK
                R   MODIFY REMOTE ACCESS PASSWORD
                P   MODIFY CONSOLE PASSWORD
                S   SHUTDOWN CONSOLE
                C   SET COMMUNICATION PARAMETERS
                D   CHANGE DISPLAY COLORS

                     <message>

          Esc: Return to Console Main Menu
```

Figure 2-24. Console Utilities Display

To select a Console Utilities display option (figure 2-24), press the appropriate key.

Console Utilities Display Menu	Key
Remote Link Options	**L**
Terminate Remote Link	**T**
Modify Remote Access Password	**R**
Modify Console Password	**P**
Shutdown Console	**S**
Set Communication Parameters	**C**
Change Display Colors	D

Press **Esc** as the first key after selecting one of these options returns you to the Console Utilities display.

Remote Link (L) Options Display

Selection of the L option allows examining or changing the attributes associated with the remote link. Attributes that can be examined are STATE, PRIVILEGES, and ACTIVITY. Attributes that can be changed are STATE and PRIVILEGES.

Press **L** from the Console Utilities display for the Remote Link Options display (figure 2-25).

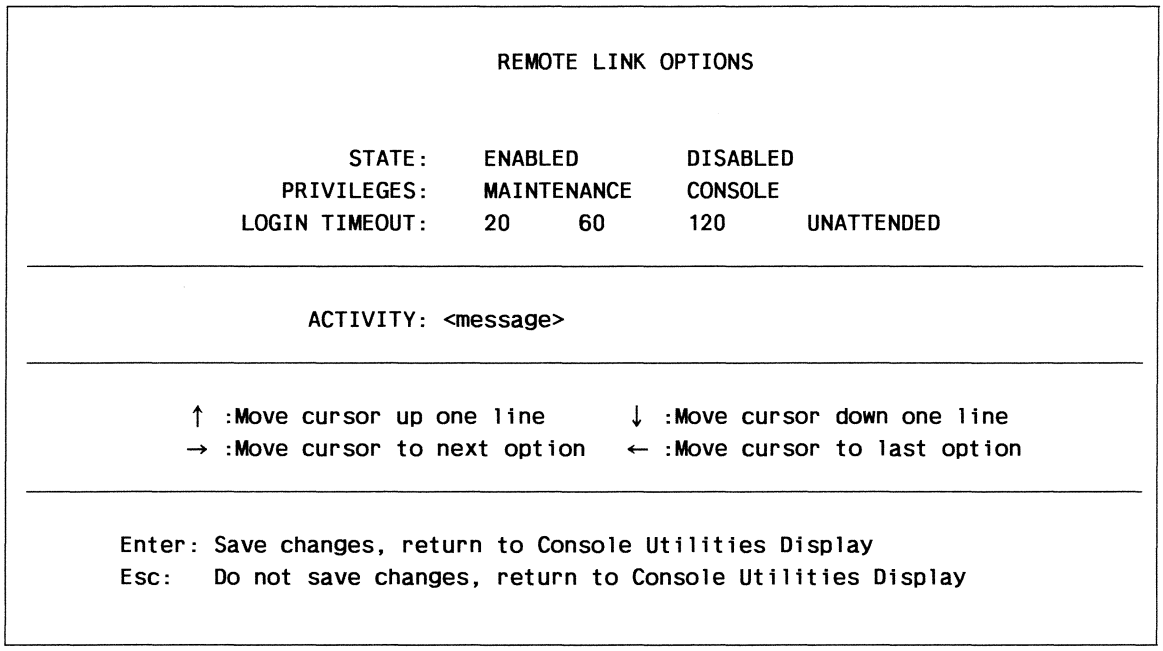

Figure 2-25. Remote Link Display

This display is used to enable/disable the remote link, to specify remote link user privileges, and to status current remote link activity.

Change attributes as follows.

1. Use the Up arrow (↑) and/or Down arrow (↓) to select the attribute that is to be changed. Currently selected options are highlighted.
2. Once the attribute has been selected, use the Right arrow (→) and/or Left arrow (←) to select the desired option for that attribute. The selected option will be highlighted.
3. Repeat steps 1 and 2 until all desired changes have been made.
4. Press **Enter** to save the new attribute options and return to the Console Utilities display. Press **Esc** to return to the Console Utilities display without saving the attribute options.

The Remote Link Options display currently contains two attributes that can be changed by the operator: STATE and PRIVILEGES.

- The STATE attribute has two options, enabled and disabled. An enable/disable state is used to accept or reject incoming calls. In an enabled state, incoming calls are serviced by the console. In a disabled state, incoming calls are not honored. The following can change the state of the remote link.

  NOTE

  These attributes take effect at the next RTA login. They do not change on the current login.

  - The operator enables the remote link via a console command. This allows a remote user (such as a customer engineer) to gain access to the system via the remote link.
  - The operator disables the remote link via console command. This prevents remote users from using the remote link to access the system. If a user is logged in when the remote link is disabled, the user is allowed to continue the session.
  - The console automatically disables the remote link when a remote user is unable to provide a valid remote access password after three attempts.

- The PRIVILEGES attribute has two options: Maintenance and Console. Refer to the following description under Remote Link Privileges.

Remote Link Privileges

The operator can select one of two remote link privileges, Maintenance and Console, for the remote link connection. These privileges allow the operator to control the type of activity the remote link user is capable of performing via the remote link.

The remote link privileges can be changed by the system console operator at any time. However, the remote link privileges for a specific session are determined at the time the remote link is being validated for use and is in force for the duration of the session.

Maintenance Privileges

Maintenance privileges automatically connect the remote user to port 1 on the TPM in the primary IOU once the remote link connection is validated. The remote user is limited to those activities that are supported by the software driving the TPM.

Maintenance privileges do not allow the remote user to deadstart the system or access the TPM displays.

Console Privileges

Console privileges allow the remote user all the privileges that are normally provided to the local console with the exception of changing console utilities, changing passwords, or installing CIP (applies to CC598-A/D only). The remote user can deadstart the system and access the Monitor Display Driver (MDD) and the TPM displays.

Remote Link Messages

The remote link display ACTIVITY is a status message informing you of the current remote link activity. You cannot change this message directly. The following remote link activity messages may appear on this display. These messages remain static (will not be updated) for as long as they appear on this display.

Activity Message	Description
`Remote link disabled`	The remote link is in a disabled state. Remote users are unable to use the link.
`Validating remote user`	The remote link has accepted a call and is currently validating the user.
`Remote link in use`	A remote user is currently using the remote link.
`Remote user logging out`	The remote link connection is being terminated.

Terminate Remote Link (T)

Option T on the Console Utilities display stops all activity on the remote link by logically hanging up the phone on the remote user. The remote user is notified that the remote connection was broken by the system console operator. (Pressing **Ctrl-F10** performs an identical function.)

Press **T** from the Console Utilities display for the Terminate Remote Link display. When the termination process is complete, the message: `Remote link activity terminated` appears on the Console Utilities message line.

Modify Remote Access Password (R)

NOTE

This is a privileged console function. If the console password is not the *NULL* password, the operator is required to input the password before being allowed to perform this operation.

Option R from the Console Utilities display allows changing the remote access password.

Press **R** from the Console Utilities display for the Modify Remote Access Password display. The display appears when you press **R** and the current password is Null. If not Null, then supply the current password, when prompted.

You will be asked to enter the new password twice. If the same password is entered twice, the old password is changed to the new password and control returns to the Console Utilities display. If different passwords are entered, the old password is not changed; the user is notified and given a chance to start over. The **Esc** key is used to return to the Console Utilities display without changing the password. The system generates the display shown in figure 2-26.

```
                    Modify Remote Access Password

The remote access password controls who can access the console
via the remote link.  The remote access password consists of a
maximum of 15 alphanumeric characters.

Enter "NULL" to disable remote access password validation.

Enter new remote access password:


Esc:  Do not update password, return to Console Utilities Display
```

Figure 2-26. Modify Remote Access Password Display

This display prompts for the new password. The cursor is positioned after the prompt. Enter the desired password and press **Enter** when complete. The console assumes the Null password if **Enter** is pressed and no password has been entered. To edit the password, use the **Backspace** key.

After you press **Enter**, the display shown in figure 2-27 appears.

```
                    Modify Remote Access Password

You must verify that you remember the new remote access password by
entering it for a second time before it can be changed.  If you are unable to
verify the password, the process will be repeated from the beginning.

Verify new remote access password:


Esc:  Do not update password, return to Console Utilities Display
```

Figure 2-27. Verify Remote Access Password Display

If your responses to the password prompts are the same, the old password is replaced by the new password and the Console Utilities display appears.

If you respond differently to the password prompts, the display in figure 2-28 appears and you must start over.

```
                    Modify Remote Access Password

The password verification was not successful.  The password was
not changed.  Please try again.

The remote access password controls who can access the console
via the remote link.  The remote access password consists of a
maximum of 15 alphanumeric characters.

Enter "NULL" to disable remote access password validation.

Enter new remote access password:


Esc:  Do not update password, return to Console Utilities Display
```

Figure 2-28. Re-entering Remote Access Password Display

Modify Console Password (P)

NOTE

This is a privileged console function. If the console password is not the *NULL* password, the operator is required to input the password before being allowed to perform this operation.

Option P allows changing the console password.

Press **P** from the Console Utilities display for the Modify Console Password display. The display in figure 2-29 appears when you press **P** and the current password is Null. If not Null, then supply the current password, when prompted.

You will be asked to enter the new password twice. If the same password is entered twice, the old password is changed to the new password and control returns to the Console Utilities display. If different passwords are entered, the old password is not changed and the user is notified and given a chance to start over. Use **Esc** to return to the Console Utilities display.

```
                    Modify Console Password

The console password controls who can perform privileged
console operations such as changing the remote access password.
The console password consists of a maximum of 15 alphanumeric
characters.

Enter "NULL" to disable console password validation.

Enter new console password:


Esc:  Do not update password, return to Console Utilities Display
```

Figure 2-29. Modify Console Password Display

This display prompts for the new password. The cursor is positioned after the prompt. Enter the desired password and press **Enter** when complete. The console assumes the Null password if **Enter** is pressed and no password has been entered. To edit the password, use the **Backspace** key.

After you press **Enter**, the display in figure 2-30 appears.

```
                        Modify Console Password

      You must verify that you remember the new console password by
      entering it for a second time before it can be changed.  If you
      are unable to verify the password, the process will be repeated
      from the beginning.

      Verify new console password:


      Esc:  Do not update password, return to Consoles Utilities Display.
```

Figure 2-30. Modify Console Password Display

If your responses to the password prompts are the same, the old password is replaced by the new password and the Console Utilities display appears.

If you respond differently to the password prompts, the display in figure 2-31 appears.

```
                        Modify Console Password

      The password verification was not successful.  The password was
      not changed.  Please try again.

      The console password controls who can perform privileged
      console operations such as changing the remote access password.
      The console password consists of a maximum of 15 alphanumeric
      characters.

      Enter "NULL" to disable console password validation:

      Enter new console password:


      Esc:  Do not update password, return to Console Utilities Display
```

Figure 2-31. Re-entering Modify Console Password

Shutdown Console (S)

Option S moves the read/write heads of the hard disk to a position where they cannot destroy data in the event of excessive physical shock. This option should be selected before the console is to be moved or before any maintenance activity is performed on the console itself.

Press **S** from the Console Utilities display for the Shutdown Console display options (figure 2-32). After the display appears, press **Y** to park the hard disk. No further operation is possible until power to the console has been turned off and back on again. Press **N** or **Esc** to return to the Console Utilties display.


```
                        SHUTDOWN CONSOLE

      THIS OPTION WILL FORCE THE CONSOLE HARD DISK TO BE PARKED

               - NO FURTHER OPERATION IS THEN POSSIBLE -

                    Press Y to continue
                    Press N to return to Console Utilities Display

        Esc: Return to Console Utilities Display
```

Figure 2-32. Shutdown Console Display

Set Communication Parameters (C)

Option C allows examining or changing the communication parameters used with the remote link modem.

The communication parameters have been set for the Multitech 224EH modem by Engineering Services at the time of system console installation. They do not require resetting unless the modem type is changed.

If the communication parameters require changing, press **C** from the Console Utilities display for the Set Communication Parameters display (figure 2-33).

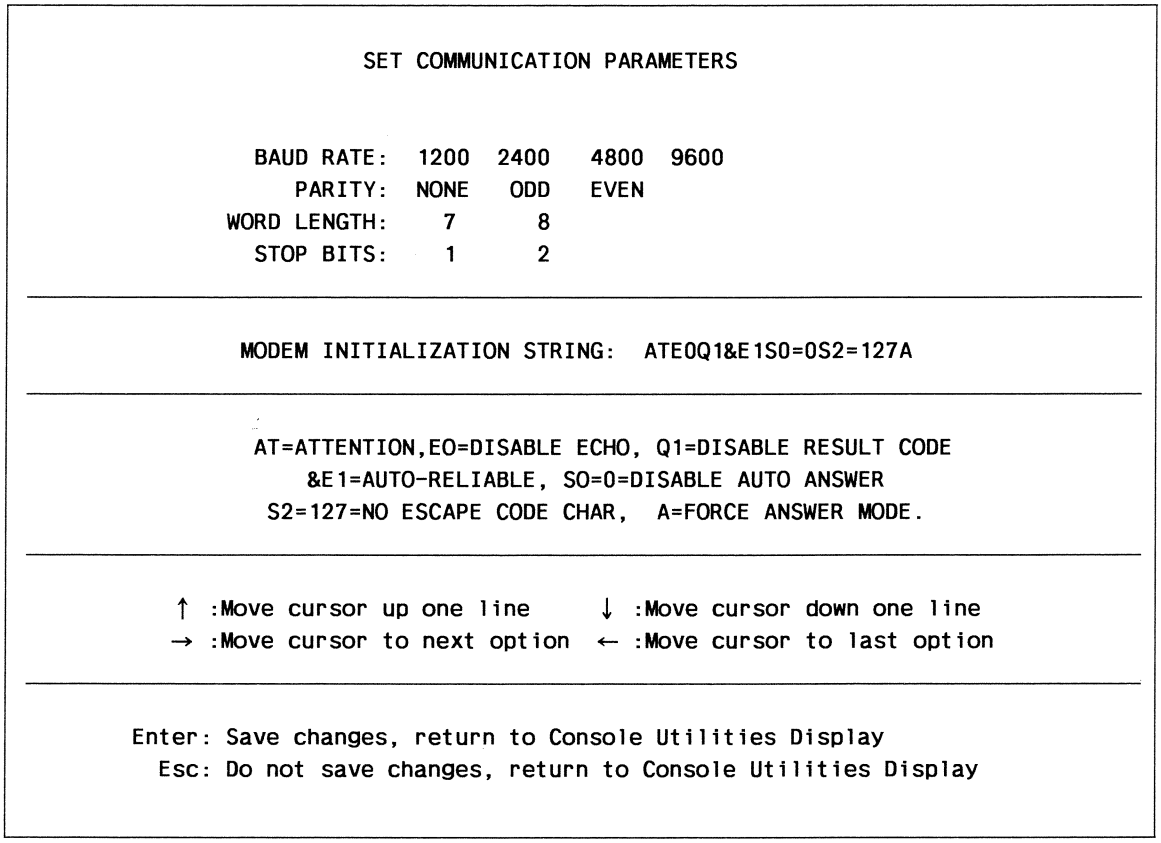

Figure 2-33. Set Communication Parameters

The Set Communication Parameters display is used to examine or to change the communiction parameters to be used with the remote link modem.

The communication parameters can be changed by the operator at any time. However, the communication parameters for a specific session are determined at the time the remote link is being validated and is in force for the duration of the session.

NOTE

Parameters should be changed by qualified personnel only.

Change the display as follows:

1. Use the Up arrow (↑) and/or Down arrow (↓) to select the parameter that is to be changed.

2. The parameter option is set by one of the following methods depending on the parameter selected.

   a. Use the Left arrow (←) and/or Right arrow (→) to select the desired option for that attribute. The selected option is highlighted.

   b. Type the character strings desired. The following keys provide menu editing capabilities for options where character strings are to be typed. Use them if required.

Key	Editing Capability
Ins	Toggles insert and overwrite modes. In overwrite mode, characters are overwritten by user inputs. In insert mode, characters typed in are inserted to the right of the cursor.
Del	Deletes the character over the cursor moving all characters to the right of the cursor one position to the left.
Backspace	Erases the character to the left of the cursor, the last character entered. Moves cursor left one position and erases character in that position.
Left arrow (←)	Moves the cursor to the left one position.
Right arrow (→)	Moves the cursor to the right one position.
Ctrl-Home	Clears the field and sets the cursor to the first character position.
Ctrl-End	Clears the field from the cursor position to the end of the field.
Enter/Return	Saves the new parameter options and returns to the Console Utilities display.

NOTE

When editing menu fields (such as passwords), it must be ensured that any unwanted characters to the right of the cursor are cleared out using **Ctrl-End**. Pressing **Enter** in such a situation does not clear out the characters to the right of the cursor for that menu option.

3. Repeat steps 1 and 2 until all desired changes have been made.

4. Press **Return** to save the new parameter options and return to the Console Utilities display. Press **Esc** to return to the Console Utilities display without saving the parameter options.

Set or select other communications parameters according to the following paragraphs.

Baud Rate

The baud rate of the remote link can be set to one of the following values.

1200
2400
4800
9600

The remote terminal must be set at the same baud rate. The default baud rate is 2400.

Parity

Set parity for data transmitted via the remote link to one of the following values: none, odd, or even. The remote terminal must have the same parity. The default parity is even parity.

Word Length

Set the word length of the data transmitted via the remote link to one of the following values: 7 or 8. The remote terminal must be set up for the same word length. The default word length is 7.

Stop Bits

Select the number of stop bits to be used when sending data via the remote link to one of the following values: 1 or 2. The remote terminal must be set up for the same number of stop bits. The default number of stop bits is 1.

Modem Initialization String

The Modem Initialization String is a string of 0 to 40 characters consisting of modem commands sent to the modem whenever the remote link is enabled. This parameter allows a site to control modem action. The default modem enable string is ATE0Q1&E1S0=0S2=127A.

```
AT-ATTENTION CHARACTER
  E0-DISABLE ECHO BACK CHARACTERS IN COMMAND MODE
    Q1-DISABLE RESULT CODE
      &E1-AUTO-RELIABLE MODE
        S0=0 DISABLE AUTO-ANSWER COMPLETELY
            S2=127-NO ESCAPE CODE CHARACTER
                  A-FORCE ANSWER MODE
```

Refer to your modem user's guide for further information concerning modem commands.

Change Display Colors (D)

Option D allows you to change the display screen colors that are used by system displays. The menu presented when this option is selected provides an example of all screen colors used, thus allowing you to preview the color selections.

While the Change Display Colors menu in figure 2-34 appears, **PgUp** changes the selected screen color to one of eight major color groups, causing a significant change in the color used for that area of the screen. **PgDn** provides a subtler change, selecting one of eight color shades within the present color group. **Home** causes all of the screen colors to be restored to their default values.

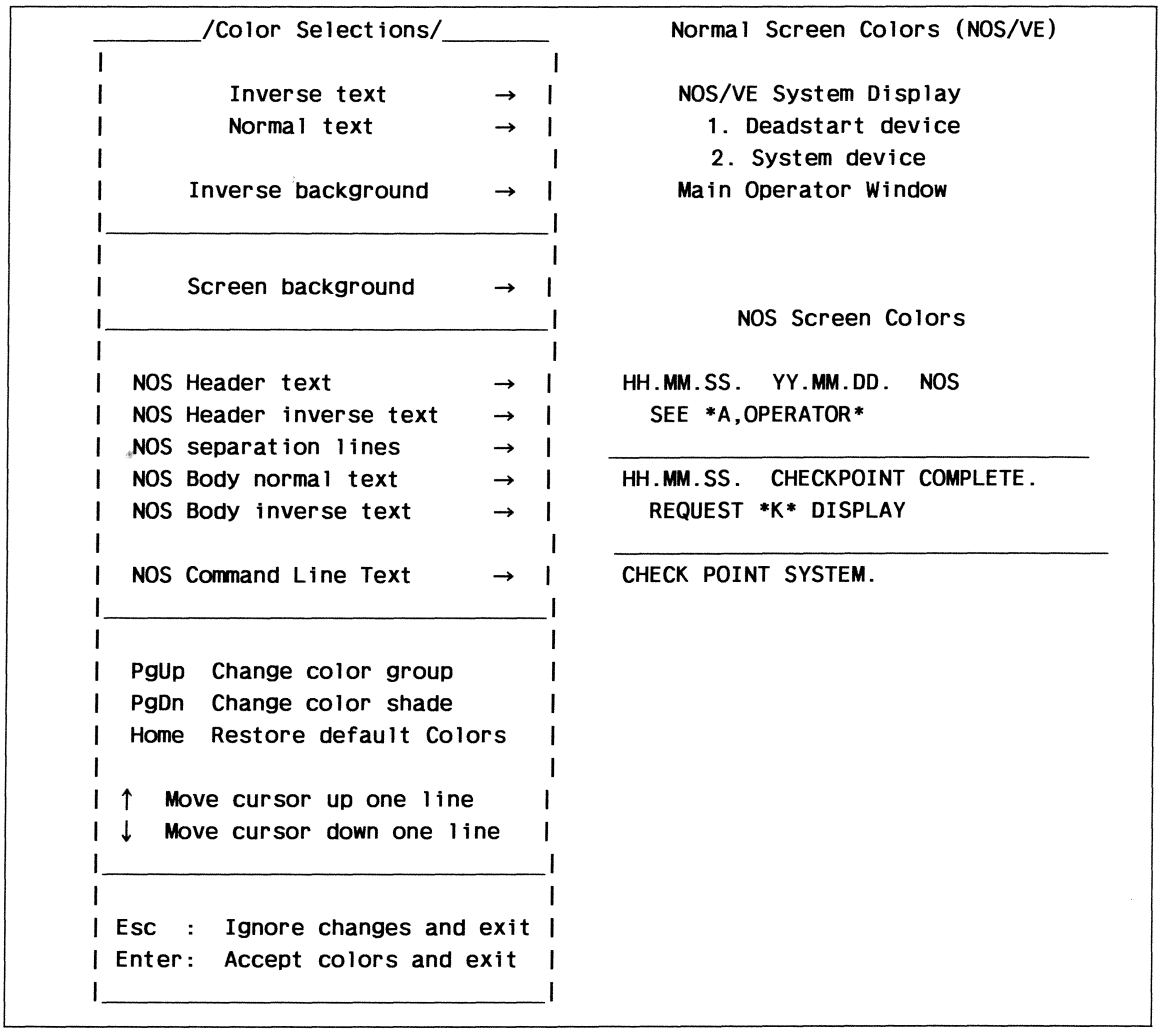

Figure 2-34. Change Display Colors Menu

Console Help Display

To obtain console help, use the Help display (figure 2-35) which is available at any time. Pressing **Esc** causes the previous display to appear.

Press **Ctrl-F1** to obtain the Help display.

NOTE

The HELP display is not valid on the Console Utilities display.

```
                        Help Display


Ctrl-F1  Select Console HELP Display
Ctrl-F2  Select Console Main Menu
Ctrl-F3  Select Maintenance Options - IOU0 Display
Ctrl-F4  Select Maintenance Options - IOU1 Display
Ctrl-F5  Select Systems Displays
Ctrl-F6  Select IOU1 Displays
Ctrl-F10 Terminate Remote Link


Esc:  Return to Previous Display
```

Figure 2-35. Console Help Display

CC545 Console Support

The following messages appear on the CC598-B/E system console when the CC545 console is used in deadstarting the system.

1. When the CC545 DEADSTART button is pressed, the following message appears on the CC598-B/E system console display:

   ```
   CC545 deadstart button has been pressed.
   ```

2. When a deadstart command is issued from the CC545 console, the following message appears on the CC598-B/E system console display:

   ```
   CC545 is the deadstart console.
   ```

Initializing the System Console 3

Power-On Initialization Sequence 3-1
Keyboard Initialization Sequence 3-1

Recovery Procedure 3-2

Reinstalling/Upgrading System Console Software 3-3

Initializing the System Console 3

This chapter instructs how to initialize your system console, execute a recovery sequence, and reinstall or upgrade system console software.

The two methods of system console initialization are as follows.

- Apply power to the console (CCU and monitor).
- Press a combination of keys at the keyboard (console must already be powered on).

NOTE

The following procedures assume that your keyboard is unlocked (input from your keyboard is enabled via the keylock switch on the CCU).

Power-On Initialization Sequence

When you apply power to the system console (monitor and CCU), the console executes a series of power-on self tests before displaying the Control Data logo. System console software then begins the initialization sequence and displays the Console Main Menu (figure 2-12).

The Console Main Menu serves as the starting point for many operations. Once this menu is displayed, you can proceed to initialize the CYBER system and load the operating system as described in the appropriate CIP manual listed in About This Manual.

If you want to reinitialize your console by powering the CCU off, then on again, be sure to pause at least five seconds after removing power before applying power again to allow the internal hard disk to stop.

CAUTION

Do not power down the system console and pull the two-port mux (TPM) board at the same time as the passwords may be lost. If the TPM board is removed, or if the TPM board battery loses power and the console is powered down, the console and remote passwords will be lost. If this situation occurs, you must reenter passwords. If the IOU is powered down without removing the TPM board, passwords will not be lost.

Keyboard Initialization Sequence

To reinitialize the console any time the console is powered up, press **Ctrl-Alt-Del**. This prompts the system console to execute a series of self tests and display the Control Data logo.[1] System console software then begins the initialization sequence and displays the Console Main Menu (figure 2-12).

The Console Main Menu serves as the starting point for many operations. Once this menu is displayed, you can proceed to initialize the CYBER system and load the operating system as described in the appropriate CIP manual listed in About This Manual.

1. If the logo does not appear, you must reinitialize the console by powering it down, then up again.

Recovery Procedure

NOTE

Before executing troubleshooting procedures or performing the following recovery sequence, you should first capture the current information displayed on the console screen as it could contain important information about a problem. If an optional console printer is available, you can also print the current screen contents by pressing the **Print Screen** key.

If the console software fails during computer system operation, perform the following recovery sequence to resume communications with the CYBER computer system. This procedure must be executed from the system console. The CYBER operating system will be unaware of the console failure.

___ 1. Press **Ctrl-F2**. The Console Main Menu display (figure 2-12) should appear. If this does not occur, go to step 2. If the Console Main Menu display appears, go to step 6.

___ 2. Press **Ctrl-Alt-Del**. The system console executes a series of diagnostic self tests. When the tests are finished, the Control Data copyright should appear briefly, followed by the initialization sequence, and then by the Console Main Menu display. If this does not occur, go to step 3. If the Console Main Menu display appears, go to step 6.

___ 3. Turn system console CCU power off. Wait five seconds for the disk to stop and then turn CCU power on. The system console executes a series of power-on self tests. When the tests are finished, the Control Data copyright should appear briefly, followed by the initialization sequence, and then by the Console Main Menu display. If this does not occur, go to step 4. If the Console Main Menu display appears, go to step 6.

___ 4. Execute the manual diagnostics.

___ a. Press **Ctrl-Alt-Ins**. The console displays:

```
MFM-200 Monitor, Version x.x
Memory Size: 640K bytes
Enter ? for help.
->
```

___ b. Type TEST and press **Enter**. The following display appears:

```
CHOOSE ONE OF THE FOLLOWING

1.    DISK READ TEST
2.    KEYBOARD TEST
3.    BASE MEMORY TEST
4.    EXPANSION MEMORY TEST
5.    POWER-UP TEST
6.    EXIT

ENTER YOUR CHOICE:
```

___ c. Refer to the Zenith Z-200 PC Series Computers Owner's Manual listed in About This Manual for detailed instructions for selecting and running these tests.

___ d. If a hardware error is reported, record the error indication or message and contact your Control Data service representative.

___ 5. If no hardware error was reported in step 4, reinstall the system console operating software. (See the CC598 Support Package Software Release Bulletin.) If the Console Main Menu Display does not appear at the end of the installation process, record the steps taken along with any error messages and indications, and contact your Control Data service representative. If the Console Main Menu display appears, go to step 6.

___ 6. When the Console Main Menu display appears, press **Ctrl-F5**.

Reinstalling/Upgrading System Console Software

To reinstall or update the Console Software, follow the instructions in the CC598 Support Package Software Release Bulletin (SRB).

Part II: Maintenance

System Console Installation 4-1

Deinstallation 5-1

Troubleshooting 6-1

Repair Procedures 7-1

System Console Installation 4

Unpacking 4-1

Installation 4-1
Connections 4-2
Keyboard Connection 4-3
Monitor Connection 4-3
Optional Printer Connection 4-4
Multiport Network Adapter Connections 4-4
Power Connection 4-5
Setting System Console Time and Date 4-5

Initializing the Hard Disk and Installing the Software 4-7

System Console Installation 4

This chapter provides instructions for unpacking and connecting the system console. It also provides information for moving the system console to another location or returning it for service. For purposes of this discussion, the computing unit of the system console is referred to as the console computing unit (CCU).

Wherever appropriate, this chapter references the Zenith manuals listed in About This Manual to ensure that the most up-to-date instructions are followed.

When the CCU arrives, Control Data has already installed the video and RAM cards, the internal hard disk, and the HOSTESS Multiport Network Adapter. Additionally, Control Data has installed the console operating software on the hard disk. Thus, the CCU as you receive it contains all the hardware and software required for using it as a system console. It simply requires unpacking the CCU, monitor and keyboard, and positioning them, connecting them, connecting the system console to the CYBER computing system, and connecting power.

NOTE

When installing software, preparing the hard disk, or configurating setups, refer to the CC598 Support Package Software Release Bulletin.

Unpacking

Use the following procedure to unpack the system console components. Check the units for any shipping damage, and verify the presence of all parts by comparing them to the shipping lists that arrive with the console.

1. Move the shipping container marked as containing the system console to the console area.
2. Remove and read any special unpacking instructions and shipping lists attached to the outer surfaces of the shipping container.
3. Open the container and remove three cartons containing the CCU, the video monitor, and the console software and manuals.
4. Open each carton and compare the contents with the shipping list. Report any missing containers, parts, or damage promptly to carrier and to Control Data.
5. You may want to save the packing material and cartons in case you need to ship or transport them in the future.

Installation

Move the system console and components to their normal operating positions.

Follow the Initial Setup instructions in the Zenith Z-200 PC Series Computers Owner's Manual and Zenith Video Monitor User's Guide provided with your CCU and video monitor. Do not apply power or run the SETUP program at this time.

Connections

Connect the keyboard, video monitor, optional printer, multiport network adapter, and power to the backpanel. Figure 4-1 shows backpanel connections for the CC598-A/B CCU (however, the CC598-B CCU does not contain SCSI boards).

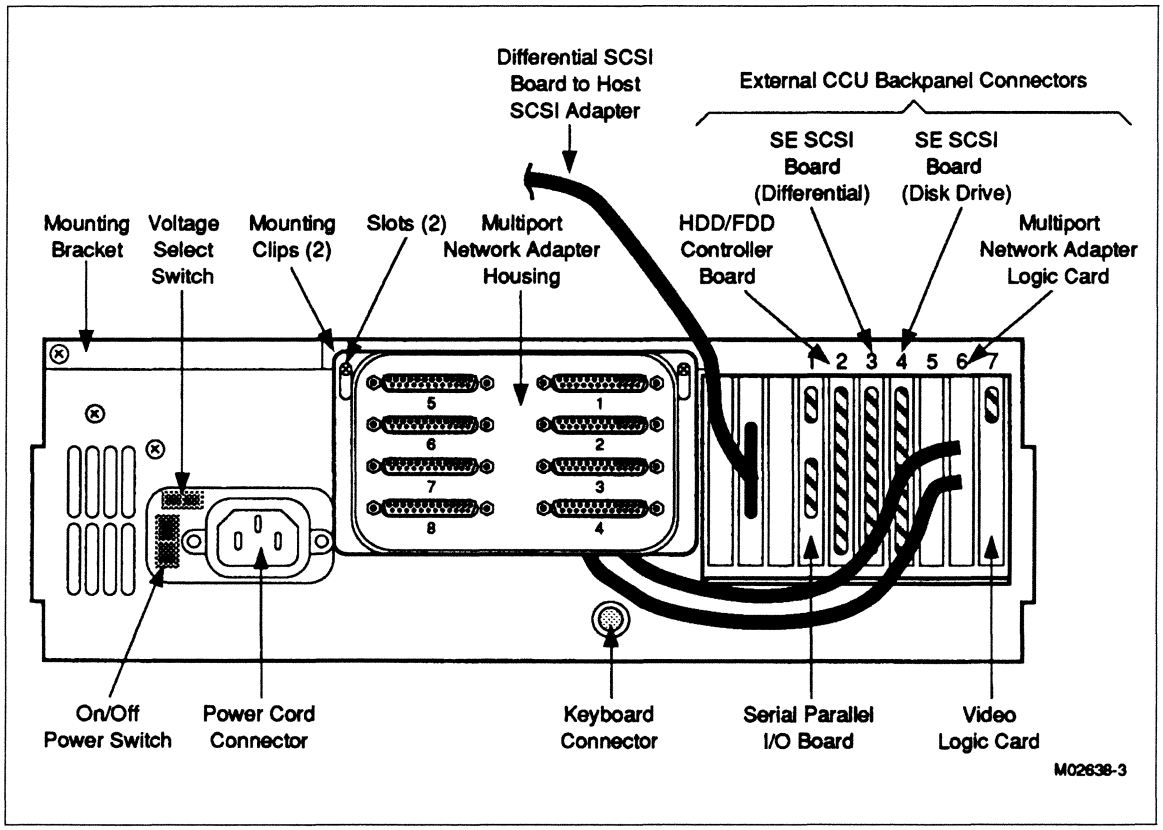

Figure 4-1. Backpanel Connections (CC598-A/B)

Figure 4-2 shows backpanel connections for the CC598-D/E CCU.

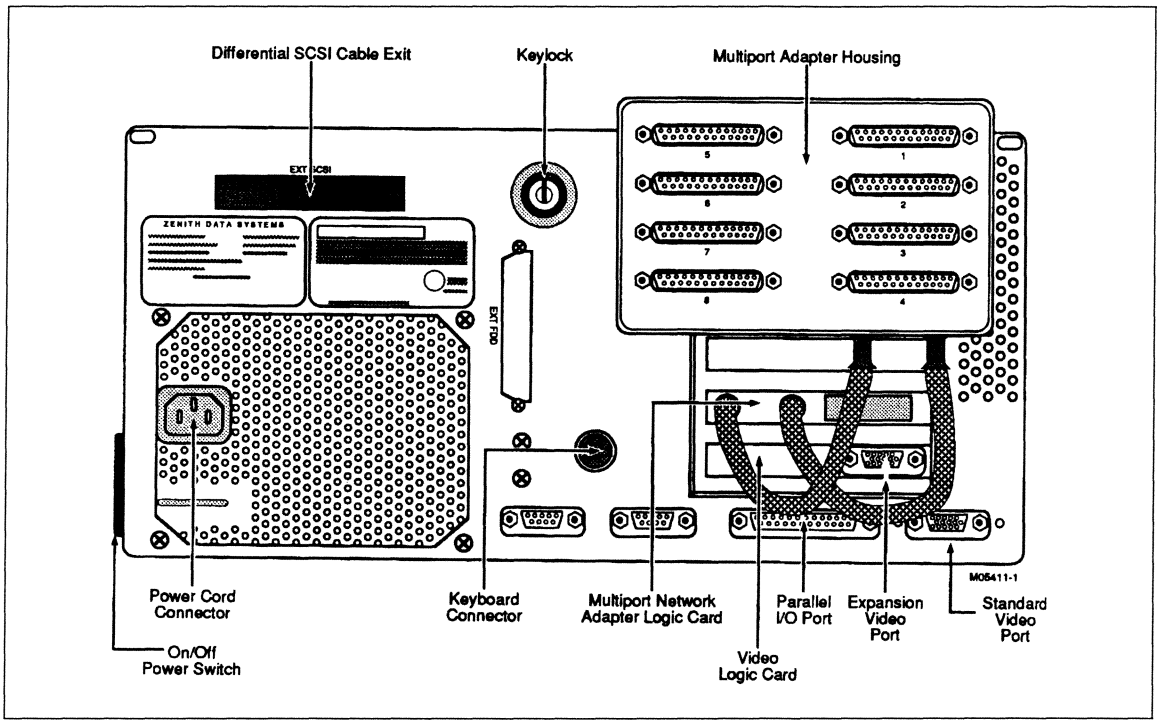

Figure 4-2. Backpanel Connections (CC598-D/E)

4

Keyboard Connection

Connect the keyboard as directed by the Initial Setup instructions in the Zenith Z-200 PC Series Computers Owner's Manual.

Monitor Connection

Connect the video monitor as directed by the Installation instructions in your Zenith Video Monitor User's Guide.

To minimize the system console's radio-frequency (RF) emissions, it is recommended that the printer, if connected, be connected to the console using a parallel printer cable available from Control Data (P/N 15402547) or Electronix Systems Cable (P/N RAGD011L-6). The consoles have been certified to be within FCC RF emission limits using a Panasonic dot matrix printer, model KX-P1091i.

NOTE

On CC598-D/E CCUs, the monitor must be connected to the expansion video port, as opposed to the standard video port (see figure 4-2).

Optional Printer Connection

A parallel printer port with a DB-25 connector is located on the backpanel of the CCU. The console printer is a customer option. Refer to the Hardware chapter of the Zenith Z-200 PC Series Computers Owner's Manual for signal definitions and instructions on connecting a printer to the parallel printer port.

Multiport Network Adapter Connections

The multiport network adapter mounted on the backpanel of the CCU provides eight RS-232-C ports, labeled 1 through 8. Figure 4-3 shows the Multiport Network Adapter cable assignments. The system console automatically detects the baud rate. The maximum baud rate supported is 38.4 K.

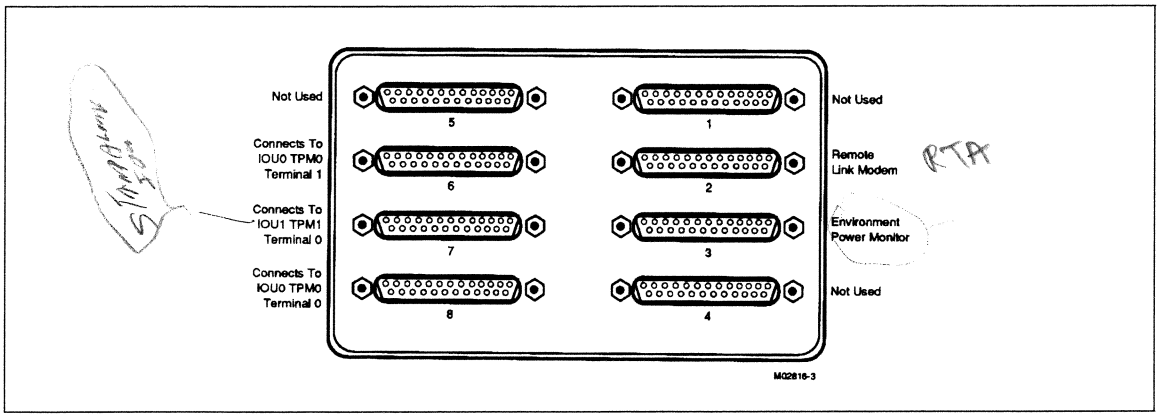

Figure 4-3. Multiport Network Adapter Cable Connections (Back View)

The cable that connects the console differential SCSI board to the CYBER (host) SCSI adapter is provided with the system console. Connect this cable as shown in figure 4-1.

Other cables for connecting the system console to the CYBER computer system are provided with the CYBER IOU hardware. Refer to installation instructions in the CYBER computer system installation and checkout manual listed in About This Manual for instructions on how to connect these cables to the IOUs.

Connect the cables to the multiport network adapter as shown in figure 4-3. The primary IOU is IOU0; the secondary IOU is IOU1.

NOTE

If you deadstart a dual-state system using port 0 of the TPM, you are restricted to one system console for both NOS and NOS/VE. A CC545 console must be connected only to IOU channel 10. A CC598B or CC634B console must be connected only to port 0 of a TPM.

If a remote link modem is to be used, connect the modem to the port labeled 2 using a Control Data serial cable, P/N 67185786.

Power Connection

WARNING

Removing or defeating the ground prong on the power cords may present a lethal shock hazard. Do not use an ac two-to-three wire adapter plug with this equipment.

NOTE

The power cords provided with your CCU and video monitor are intended for standard 120 V ac operation. For operation other than 120 V ac, you must change the setting of the voltage selection switches and replace the power cords with properly rated and shielded power cords suitable for the voltage and current to be used.

Connect power to your video monitor as described in your Zenith Video Monitor User's Guide.

Connect power to the system console as directed by the Initial Setup instructions in the Zenith Z-200 PC Series Computers Owner's Manual.

Your computer system is now ready to be initialized as described in Part 1 (chapter 3) of this guide under Power-On Initialization Procedure.

Setting System Console Time and Date

It is recommended that you set the system console internal time and date to match that of your CYBER computer system. Set the time and date as follows:

___ 1. Initialize the system console as described in the Power-On Initialization Procedure in part 1 of this manual.

___ 2. While displaying the system console Main Menu display, press **Ctrl-Alt-Ins** keys. The console displays:

```
MFM-200 Monitor, Version x.x
Memory Size: 640K bytes
ENTER ? for help.
->
```

___ 3. Type SETUP and press **Enter**. The Setup menu (figure 4-4) appears with a prompt for the time entry. This display and its use is described in chapter 1 of your Zenith Z-200 PC Series Computers Owner's Manual. Display entries will be highlighted.

___ 4. Follow the instructions on the display and enter the time.

```
Example:  2:15 am is entered as 021500.

          2:15 pm is entered as 141500.
```

Press **Enter**. You are prompted to enter the date.

CAUTION

The sample setup menu shown in figure 4-4 is a generic display. Do NOT change any variable except the time and date. The active information shown will vary between different consoles.

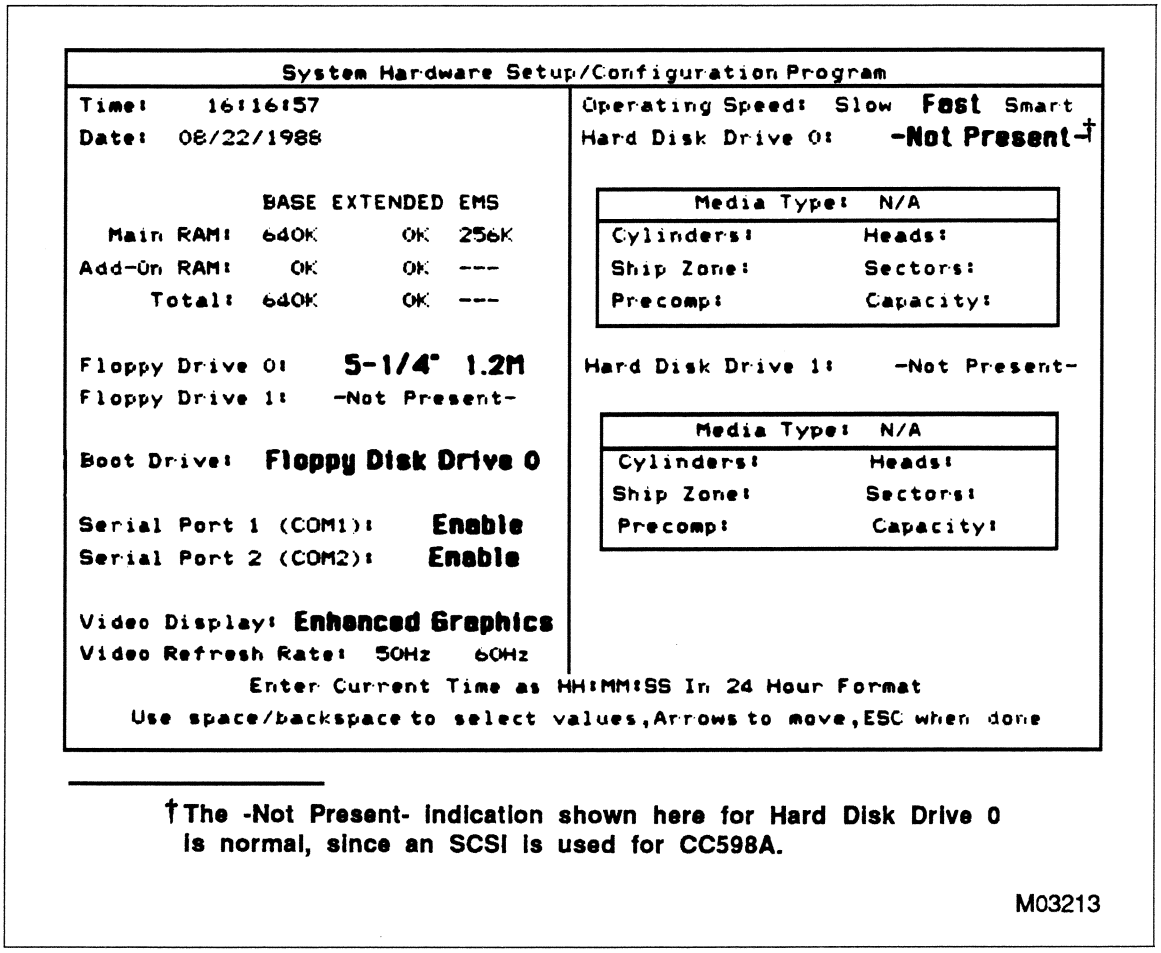

Figure 4-4. Sample Setup Menu

___ 5. Follow the instructions on the display and enter the date.

```
Example:  July 28, 1987 is entered as 07281987
```

Press **Enter**.

___ 6. Use your arrow keys to highlight your DST (daylight savings time) selection: Enabled or Disabled.

___ 7. Press **Esc** when done. The display asks:

```
Are You Done Making Changes <Y/N>?
```

___ 8. Press **Y**, then press **Enter** to save the changes and initialize the console.

Initializing the Hard Disk and Installing the Software

The system console is shipped from the factory ready for use with the hard disks initialized and the console software installed. If, however, you replace the hard disk, you must initialize the new disk, then install the console software. In this instance, follow the directions contained in the CC598 Support Package Software Release Bulletin (SRB).

Deinstallation 5

Deinstallation 5

Should it be necessary to move your system console to another location or return it for service, you must power it down properly to prevent the accidental loss of data on the console's hard disk. Refer to the Shutdown Console Option under Console Utilities in chapter 2 of this manual. Select the Shutdown Console Utilities Option before powering off the CCU.

Troubleshooting 6

Console Failure 6-1

Troubleshooting the CC598-A/D System Console 6-6

Error Messages 6-8
Power-On Error Messages 6-8
Error Message Displays 6-8

Console Information Lost Notification 6-9

Undefined Deadstart Programs in Two-Port Mux (TPM) (Applies to CC598-B/E Only) 6-10

Running Multiport Network Adapter Diagnostics (CC598-A/B/D/E) 6-10

SCSI Adapter Channel Test Descriptions (Applies to CC598-A/D Only) 6-12

5698 Tape Subsystem Test Description (Applies to CC598-A/D Only) 6-12

Troubleshooting 6

This chapter instructs you how to perform problem analysis and troubleshooting on your system console and the attached multiport network adapter. You should familiarize yourself with the following diagnostics as you may be directed to run them while troubleshooting the system console.

- Z-200 power-on diagnostics
- Z-200 MFM diagnostics
- Console initialization diagnostics
- Z-200 series diagnostics
- HOSTESS multiport network adapter diagnostics

Console Failure

A console problem is indicated when nothing happens after power is applied to the system console, when error messages appear instead of the Control Data logo during power-up, or when the video display goes blank during console operation.

Use troubleshooting table 6-1 as a checklist to identify the possible causes of system console problems.

Table 6-1. Console Troubleshooting

Symptom	Possible Cause
Nothing happens at Power On; the green light on the front panel does not light.	Power cord not plugged in.
	Power not on at wall outlet. (Check with a different appliance.)
	Power switch on the console computing unit (CCU) not on.
	Cable that attaches light and speaker not attached to central processing unit (CPU) card in the CCU.
No video (blank display) on the monitor.	Monitor not plugged in or turned on.
	Monitor not properly connected to CCU.
	Brightness control turned down.
	Failure of video (VGA) board.
	Failure of CPU card in CCU. Refer to Zenith service guide.
	Software not installed correctly. Reinstall the console software as described in chapter 3.

(Continued)

Table 6-1. Console Troubleshooting *(Continued)*

Symptom	Possible Cause
Insufficient brightness.	Brightness control turned down.
Console won't boot automatically either after Power On or after pressing **Ctrl-Alt-Del**.	Check your system configuration. Refer to Additional Troubleshooting Information at the end of chapter 6. Refer to the Zenith Service Guide. Refer to the troubleshooting procedure following this table (applies to CC598-A/D only).
System reset to Power On point or disk keeps rebooting.	Loose power cord.
(CC598-A/D only) – The console power is on but does not display the Control Data logo. The screen is blank, except for a cursor in the upper left corner of the screen.	The SCSI board in Slot 4 is defective and should be replaced.
(CC598-B/E only) – The message `Disk Controller is Bad` is displayed on the screen at power up.	The hard disk has not been properly initialized. Refer to Initializing the Hard Disk in chapter 7.
(CC598-A/D only) – The Console Logo and menu displays appear, but an error is displayed whenever attempts are made to communicate with the IOU.	Run the SCSI Adapter test – SAT4. If it does not run, the problem is in the IOU. The SCSI board in Slot 3 is defective. The SCSI differential board located under the WREN III is defective. The cables between the Console and the IOU are defective.
(CC598-B/E only) – The message `Not a bootable partition` appears on the screen at power up.	The Hard Disk is not initialized properly. Refer to Initializing the Hard disk in chapter 7. Reinstall the console software.

In addition to table 6-1, the presence of any one of the following three conditions will require you to boot the console and reconfigure the configuration information.

- If you have replaced the CPU motherboard in the console
- If you have replaced the battery on the motherboard
- If you are experiencing any problem with SETUP – messages during boot-up saying that the SETUP configuration information is faulty. A typical message is:

```
Error: Bad Configuration Information Found in CMOS.
```

The following steps describe how to reboot and reconfigure the console.

1. With power applied to the console, press the **Ctrl-Alt-Ins** keys. The console displays:

```
MFM-200 Monitor, Version 2.3B
Memory Size: 640K Bytes
Enter ? for help
->
```

2. Type SETUP and press the **Enter** key. Depending on your console type, the display shown in figure 6-1, 6-2, or 6-3 appears. Use the **arrow** keys to move the cursor, the **space/backspace** keys to select values, and the **Esc** key to exit when you are done. After pressing the **Esc** key, follow the directions shown at the bottom of the display.

NOTE

The displays shown in figures 6-1, 6-2, and 6-3 are generic. The location of the items may be different on your console. However, make certain that the **bold** items shown in these figures match the highlighted items selected on your console.

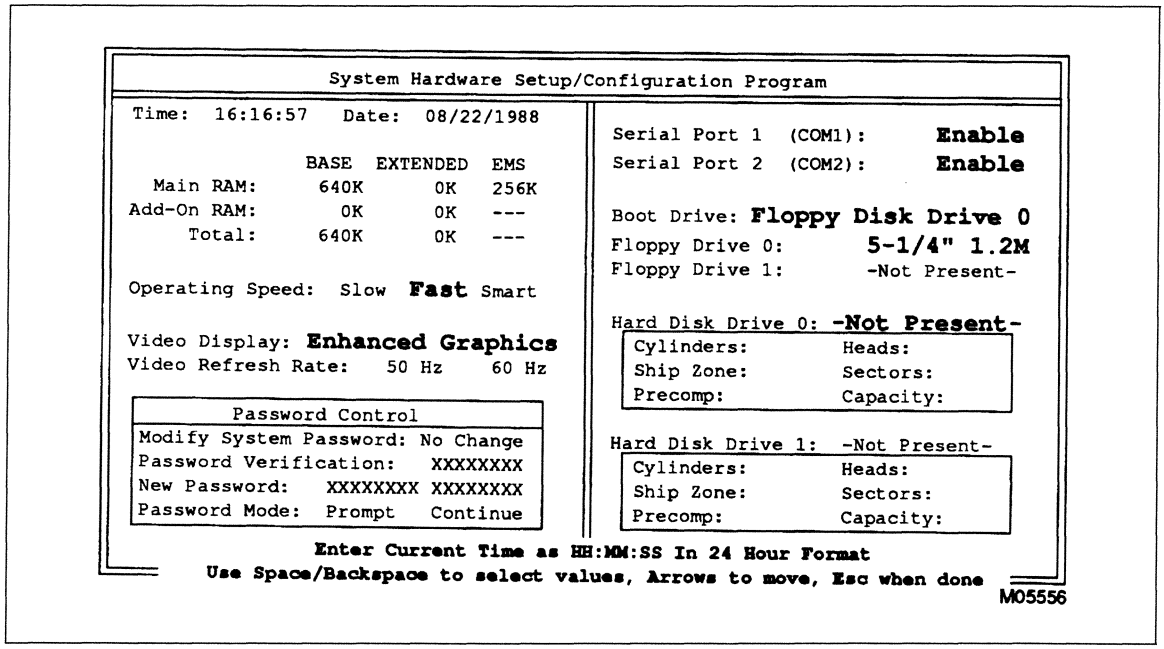

Figure 6-1. CC598-A Console Setup Menu

Ensure that your configuration matches the **bold** items shown above.

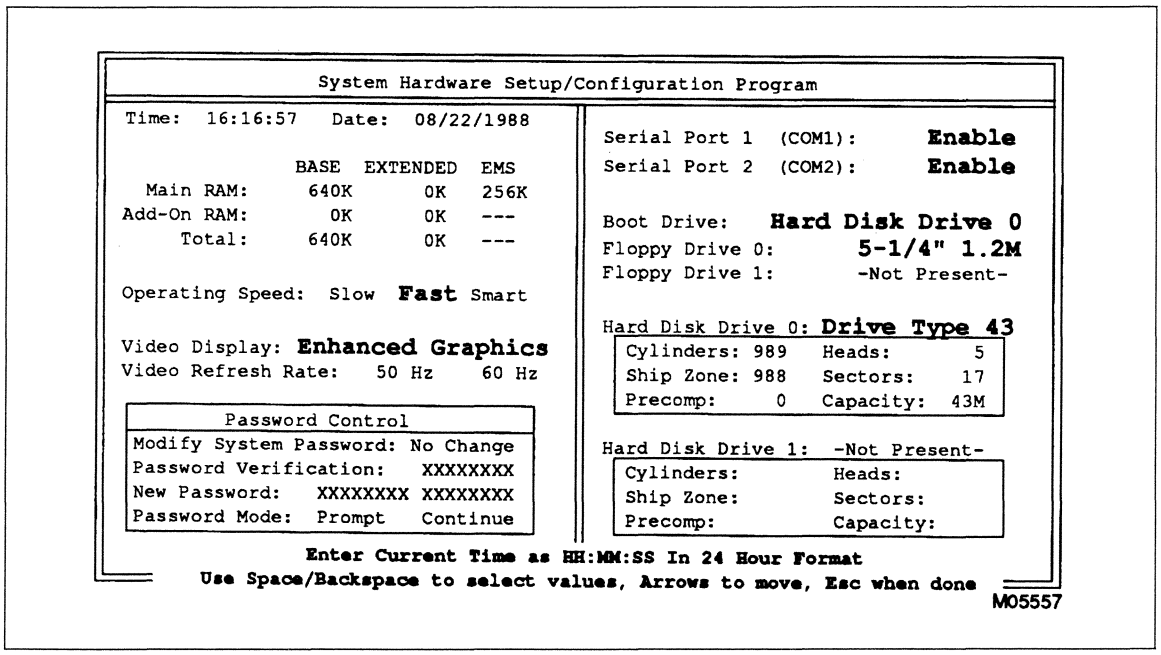

Figure 6-2. CC598-B and CC598-C Console Setup Menu

Ensure that your configuration matches the **bold** items shown above.

NOTE

Some information in this manual refers to the CC598-C System Console. This console is described in appendix A of the LCN Network Maintenance Station, Operation and Maintenance Guide, publication number 60000424.

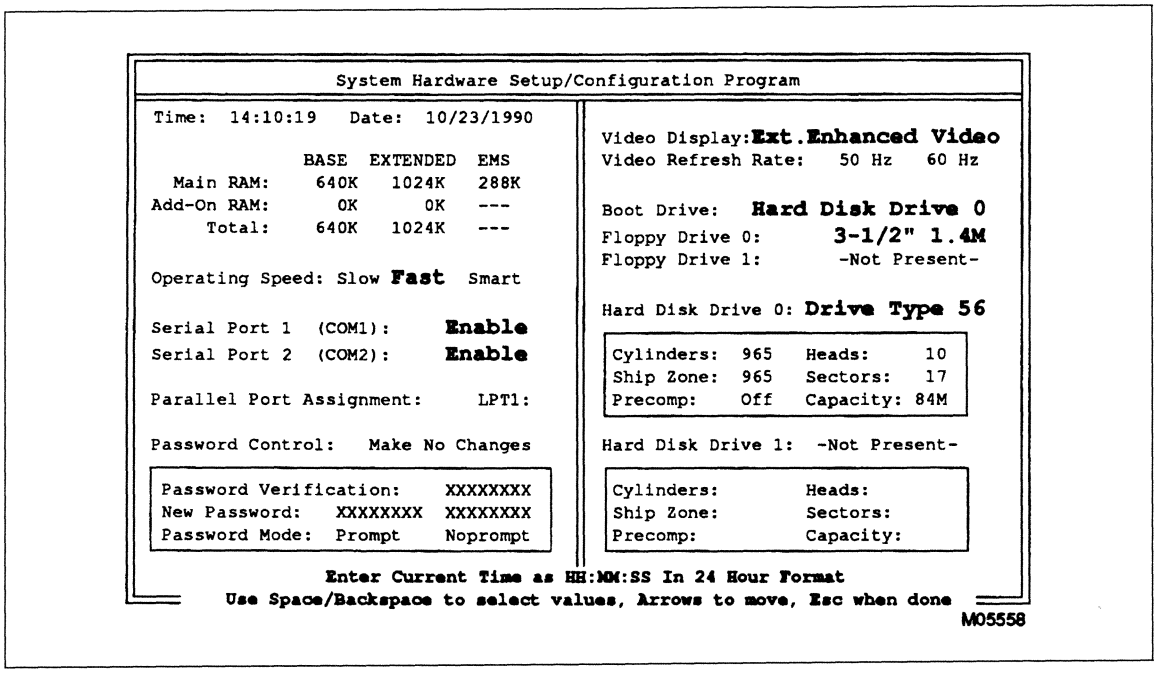

Figure 6-3. CC598-D/E Console Setup Menu

Ensure that your configuration matches the **bold** items shown above.

Troubleshooting the CC598-A/D System Console

NOTE

Before performing any action, either print out the display if you have a printer or write down its contents. The console software displays Fault Symptom Codes which must be logged.

If you are unable to boot up the console, the following procedure may help you isolate the failing component.

1. Press **Ctrl-Alt-Ins**. The console displays the following:

```
MFM-200 Monitor, Version x.x.
Memory Size:  640K Bytes
Enter ? for help
->
```

   If step 1 is successful, the following message appears on the screen prior to seeing the above display. Go to step 4.

```
Rancho Technology RT10-AT SCSI Host Adapter
  Quick-BIOS(TM) Version xx.xx
  Copyright (C) 1987 Quicksilver Software Inc.

Configuration Information:
  RAM Segment:    004B
  Code:           D000
  Base Port:      0340
  DMA Channel:    05

SCSI drive installed as C:
  Target ID:      00
  Heads:          07H
  Sectors/Trk:    1AH
  Cylinders:      03D6H
```

2. If the above message does not appear at all, try each step in the following order.

   a. Check the cables between the WREN III disk drive and the SE SCSI board in Slot 4.

   b. Check the jumper straps on the SE SCSI board in Slot 4 (see figure 7-8).

   c. If it still fails, remove the SCSI board in Slot 4. With the board removed from the console, repeat step 1. The message should not appear and the Monitor Display (as shown in step 1) should appear. If this does not occur, the Zenith CPU is at fault.

   d. Replace the SE SCSI board in Slot 4.

3. If the last section of the message does not appear or if a message appears that says there were no SCSI devices found:

   a. Repeat step 1 again.

   b. Check the jumper straps on the SE SCSI board in Slot 4 (see figure 7-8).

   c. Replace the SE SCSI board in Slot 4.

4. If step 1 is successful, type SETUP and press **Enter**. The Z-200 Hardware Setup/Configuration display appears. This display contains information vital to the console boot process. The items of interest to us are the BOOT DRIVE and the HARD DISK DRIVE 0. The other information is nice, but is not essential.

```
BOOT DRIVE:  Floppy then Hard Disk

HARD DISK DRIVE 0:  -NOT PRESENT-
```

   Make sure that these two entries are displayed as shown above. If they are not, follow the directions at the bottom of the display and change them. Make sure that you save the changes as directed.

5. Insert the MS-DOS Disk 1 into the floppy disk drive and repeat step 1.

   When the monitor display (as shown in step 1) appears, type BF and press **Enter**.

   If the console prompts you for the date and time, the problem is with the hard disk drive. If you do not get a prompt for the date and time, the problem is the Z-200 CPU.

6. If the problem is with the hard disk drive, there are several things that you can attempt prior to replacing the drive.

   a. If the hard disk has been replaced, it is necessary to initialize it prior to installing software. Follow the directions contained in the CC598 Support Package Software Release Bulletin.

   b. If the above procedure is successful, (no error messages of any kind), proceed to Reinstalling/Updating System Console Software in chapter 3. Perform the procedure described there.

   c. If the above procedure is unsuccessful, the disk drive must be replaced. After replacing the drive, repeat this section.

Error Messages

The system console monitor displays an error message if the console detects a fault while powering up or if there is a communication error with the mainframe. Occasionally, other error messages may appear during operation. The display exhibits an error code and a self-explanatory error message. Copy down the display contents, or if you have a printer, print out the display. System Console messages have a Fault Symptom Code associated with them.

Power-On Error Messages

The system console performs a series of self-tests when turned on. If the console fails a test, it displays an error message instead of the Control Data logo. If the system console displays an error message at this time, refer to the System Troubleshooting chapter of the Zenith service guide listed in About This Manual for assistance in identifying and correcting the problem.

NOTE

If the Zenith service guide directs you to replace the CCU or the hard disk, you must reinstall the console software. Refer to the instructions in the CC598 Support Package Software Release Bulletin.

Error Message Displays

Error messages are displayed on the console monitor when the console detects a communication error with the mainframe. If an error message appears, it will be a full screen message, overriding the previous screen. These errors may require one of the following actions.

- The error being reported must be corrected before proceeding. For example, a bad cable connection between the console and IOU0, terminal 0, must be corrected before the console is functional.
- System operation can proceed in a degraded mode. For example, a bad cable connection between the console and the secondary IOU can be avoided by not using the secondary IOU.
- Retry the operation and call Control Data if the problem persists.

Each error condition has a fault symptom code assigned to it. This fault symptom code is displayed when the error occurs, and it should be logged by the system operator or customer engineer for later maintenance analysis.

Refer to appendix C for a list of the fault symptom codes.

Console Information Lost Notification

The message on the displays in figures 6-4 and 6-5 indicate that the console has lost information as follows.

- Remote Access Password
- Console Password
- Communication Parameters for the Modem
- Modem Initialization String
- Last CIP Partition Selected (applies to CC598-A/D only)

Press the space bar to set the default values. Then reset the information to the desired settings as soon as possible.

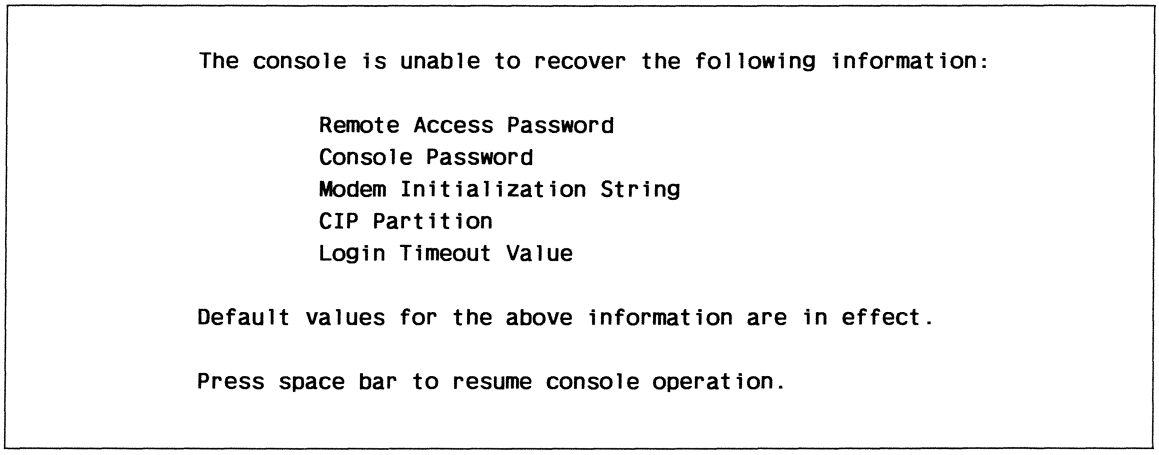

Figure 6-4. Console Information Lost Notification (CC598-A/D)

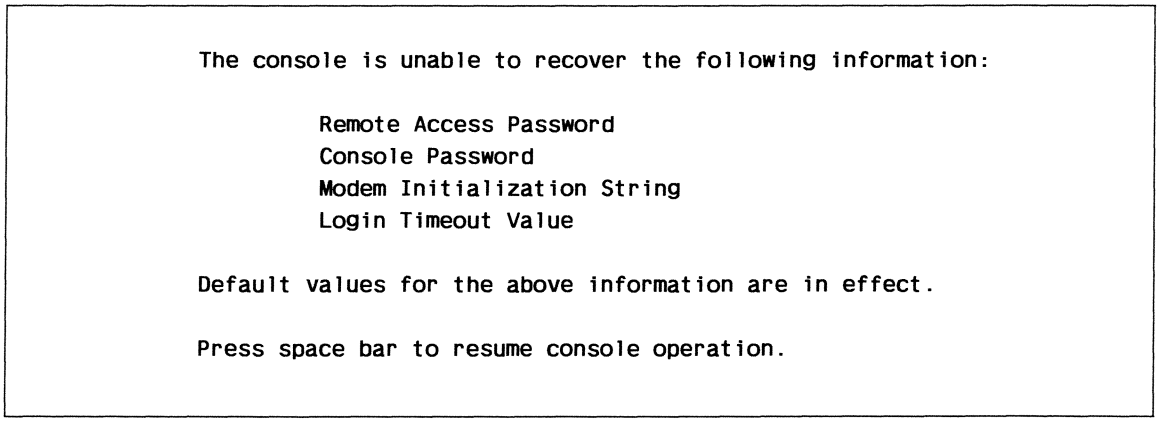

Figure 6-5. Console Information Lost Notification (CC598-B/E)

Undefined Deadstart Programs in Two-Port Mux (TPM) (Applies to CC598-B/E Only)

The Maintenance Options – IOU0 in the Two-Port Mux display appears instead of the Console Main Menu Display (figure 2-12) when the selected deadstart program has not been previously saved. The following message appears at the bottom of the display:

```
RE-ENTER DS PROGRAMS
```

This should occur (and a DS Program be re-entered) when a new TPM board has been installed in the mainframe. Refer to the appropriate CIP reference manual in About This Manual for an illustration of the Maintenance Options display.

Running Multiport Network Adapter Diagnostics (CC598-A/B/D/E)

Use the following procedure to test the Multiport Network Adapter.

NOTE

This diagnostic requires you to install a test plug provided with the HOSTESS diagnostics on each of the multiport connectors. Therefore, before running the diagnostic, you must disconnect any cables connected to the multiport adapter housing. Be sure to label the cables before disconnecting them. Reconnect the cables after running the diagnostic.

1. Power on the console.
2. Press **Ctrl-Alt-Ins**. The console displays:

```
MFM-200 Monitor, Version x.x
Memory Size: 640K bytes
Enter ? for help.
->
```

3. Insert the disk labeled CC598 Support Package into the floppy disk drive (figure 6-6 or 6-7).
4. Latch the disk drive (CC598-A/B).
5. Type `BF`, then press **Enter**. Proceed by following the directions contained in the CC598 Support Package Software Release Bulletin.

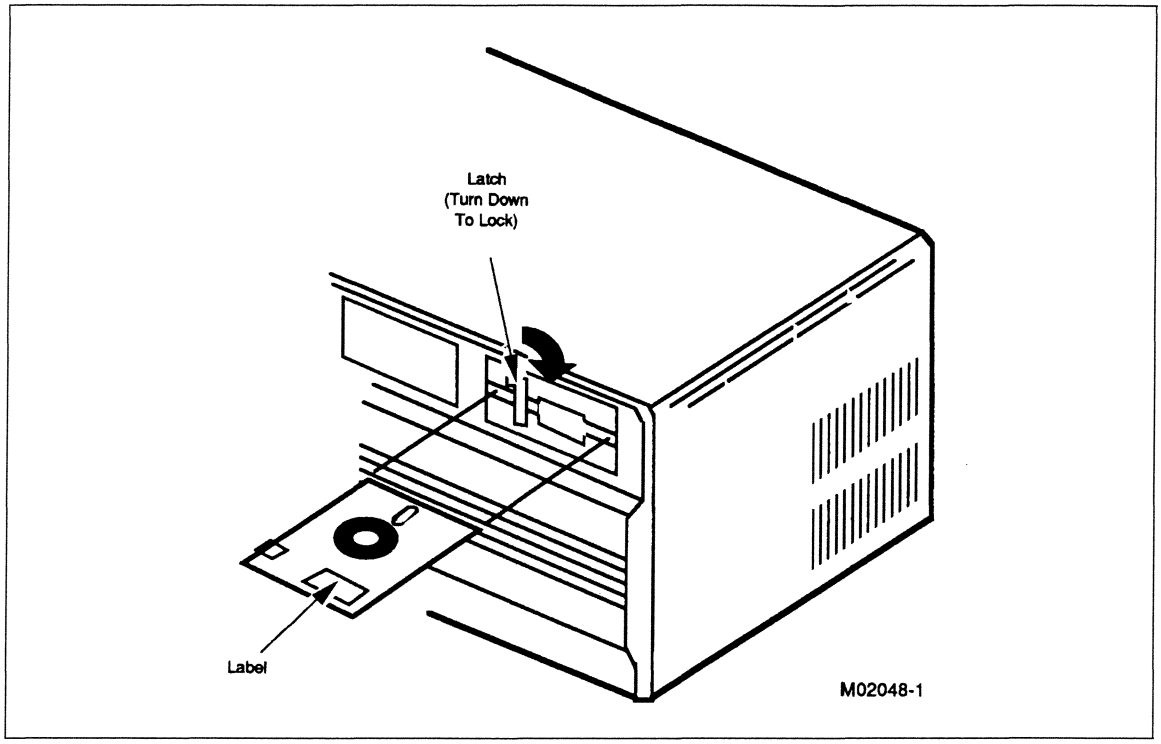

Figure 6-6. Floppy Disk Drive (CC598-A/B)

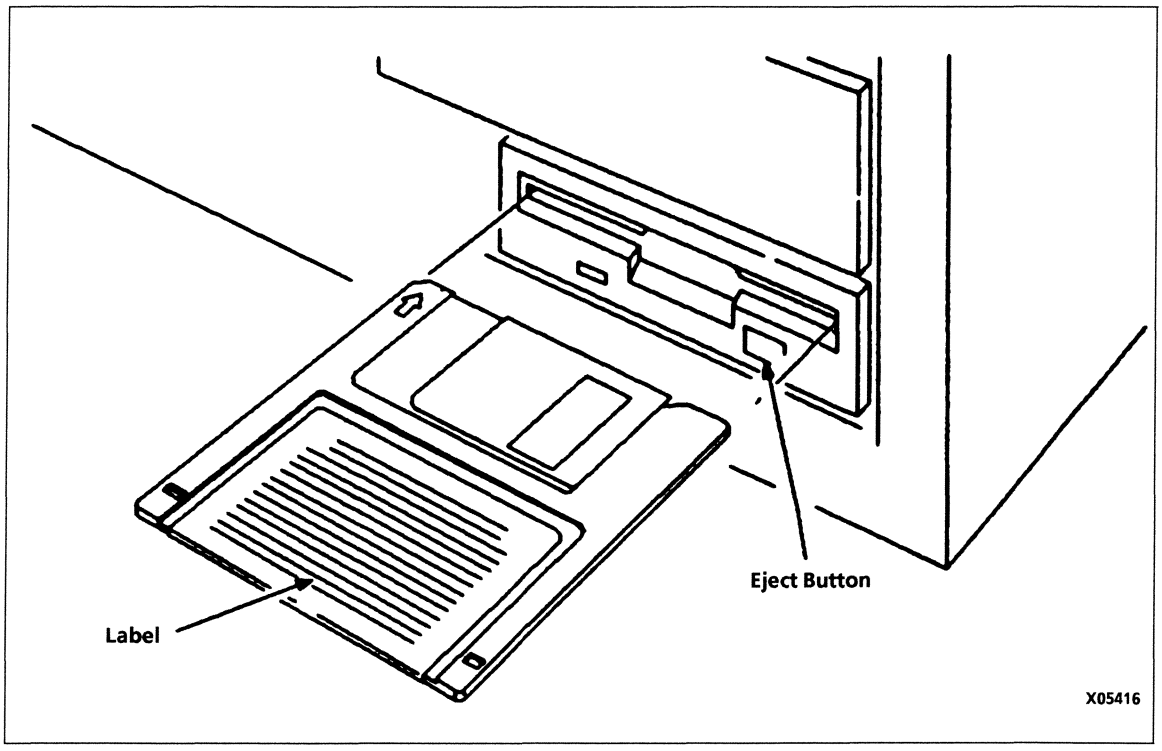

Figure 6-7. Floppy Disk Drive (CC598-D/E)

SCSI Adapter Channel Test Descriptions (Applies to CC598-A/D Only)

The Small Computer System Interface (SCSI) adapter channel (IOU interface) special channel tests are contained in the following manuals. These tests check only the SCSI adapter board in the IOU. They do not test the system console or any of its connections.

- For SAT4 test descriptions, refer to the MSL Test Descriptions Manual listed in About This Manual.
- For SAT4 test procedures, refer to the MSL Test Procedures Manual listed in About This Manual.

5698 Tape Subsystem Test Description (Applies to CC598-A/D Only)

Refer to the IT4 test in the CYBER Systems Peripheral Diagnostic Reference Manual listed in About This Manual.

Repair Procedures 7

Console Computing Unit (CCU) 7-1

Console Keyboard 7-1

Video Monitor 7-2

Adapter Housing Remove/Replace Procedure (CC598-A/B/D/E) 7-3

Adapter Card Remove/Replace Procedure (CC598-A/B/D/E) 7-5

Disk Drive Remove/Replace Procedure (CC598-A) 7-7

Differential SCSI Board Remove/Replace Procedure (CC598-A) 7-9

SE SCSI Board Remove/Replace Procedure (CC598-A) 7-12

Hard Disk Drive Remove/Replace Procedure (CC598-B) 7-16

Hard Disk Drive Remove/Replace Procedure (CC598-D/E) 7-18

Differential SCSI Board Remove/Replace Procedure (CC598-D) 7-20

SE SCSI Board Remove/Replace Procedure (CC598-D) 7-23

Initializing the Hard Disk 7-25

Repair Procedures 7

System console repair procedures consist of removing and replacing the field replaceable units listed in appendix B. This chapter is intended to supplement the repair procedures in the Zenith manuals listed in About This Manual.

Console Computing Unit (CCU)

To ensure that you use the most up-to-date instructions for repairing the following field replaceable units. Refer to the appropriate chapters of the associated Zenith manuals.

Floppy Disk Drive	Zenith Z-200 PC Series Service Guide Chapter 4 – Disassembly Cover Removal Floppy Disk Drive Removal Cover Replacement
Logic Boards	Zenith Z-200 PC Series Service Guide Chapter 4 – Disassembly Cover Removal Card Removal and Replacement Cover Replacement Chapter 5 – Configuration Hardware Jumpers
Backplane Board	Zenith Z-200 PC Series Service Guide Chapter 4 – Disassembly Cover Removal Backpanel Board Removal Cover Replacement
Power Supply	Zenith Z-200 PC Series Service Guide Chapter 4 – Disassembly Cover Removal Power Supply Removal Cover Replacement

Console Keyboard

For the most up-to-date instructions for repairing the keyboard, refer to the Zenith Z-200 PC Series Service Guide, chapter 2 – Installation.

Video Monitor

Figure 7-1 shows the video card jumper placement. The location is shown for information only. If a video card is replaced, ensure that the jumper is always placed in this position.

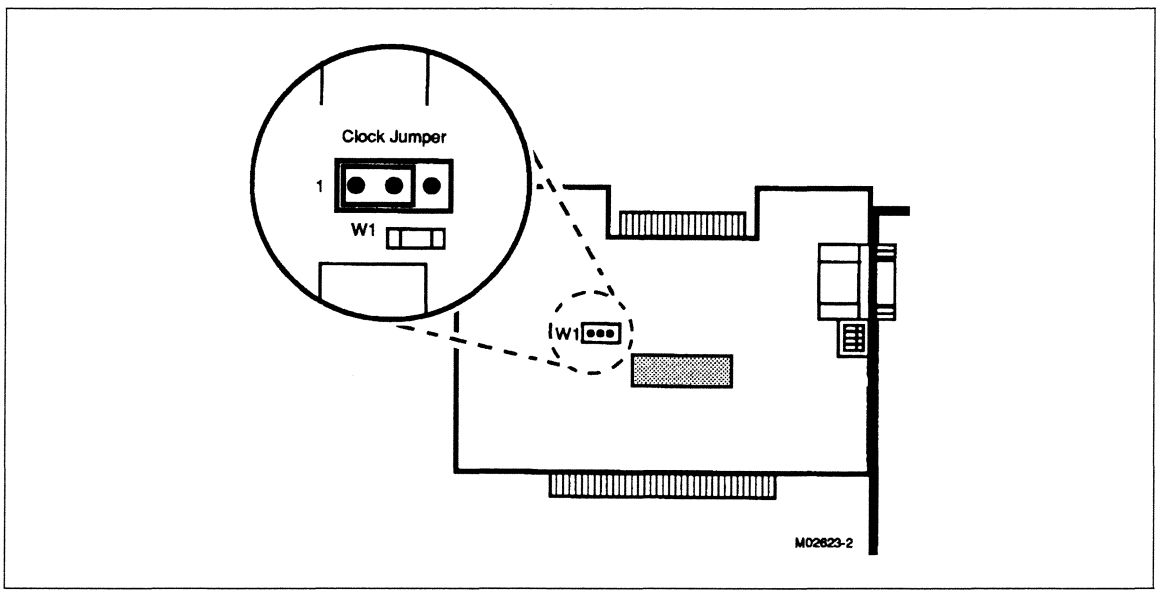

Figure 7-1. Video Logic Card Jumper Placement

Adapter Housing Remove/Replace Procedure (CC598-A/B/D/E)

The Multiport Network Adapter consists of two assemblies: the adapter logic card and the 8-connector adapter housing. Use the following procedure to remove and replace the adapter housing attached on the back of the CCU.

___ 1. Power down the monitor, CCU, and any peripherals connected to the CCU.

___ a. Disconnect the power cord from the CCU.

___ b. Disconnect the video monitor from the CCU and move it to the side.

___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 2. Mark all cables connected to the ports of the adapter housing for later reconnection, then remove from the housing.

___ 3. Remove the adapter housing from the CCU:

___ a. If a CC598-A/B model, use a Phillips screwdriver to remove the two No. 10 machine screws that mount the housing to the CCU, then lift off the housing.

___ b. If a CC598-D/E model, grasp the housing firmly with your hands and gently pry it from the Velcro fastener on the CCU.

___ 4. Using a Phillips screwdriver remove the four No. 4 screws that mount the adapter housing cover to its base plate (this also disconnects the ground wire).

___ 5. Slide the cover off.

___ 6. Mark the two round cables entering the housing through U-shaped slots for later reconnection, then remove the cables from the connectors inside the housing.

___ 7. Install a new adapter housing or reinstall the old housing by reversing steps 1 through 6. If installing a new housing, pay special attention to the following information.

___ a. Install the jumper plugs inside the housing cover exactly as shown in figure 7-2. Jumper plugs for both J14 jumpers must be installed on pins 1 and 2 to disconnect –12 V from pin 15 of ports 3 and 7, and jumper plugs for both sets of jumpers J6 through J9 must be on all eight ports to connect pin 1 of each 25-pin connector to protective ground.

CAUTION

Do not connect the cable shielding to protective ground on both ends of the cable as possible electrical interference may result from ground loop current.

___ b. Connect the cable containing the ground wire to the connector to the immediate left of ports 1 through 4. Connect the remaining cable to the connector to the immediate left of ports 5 through 8.

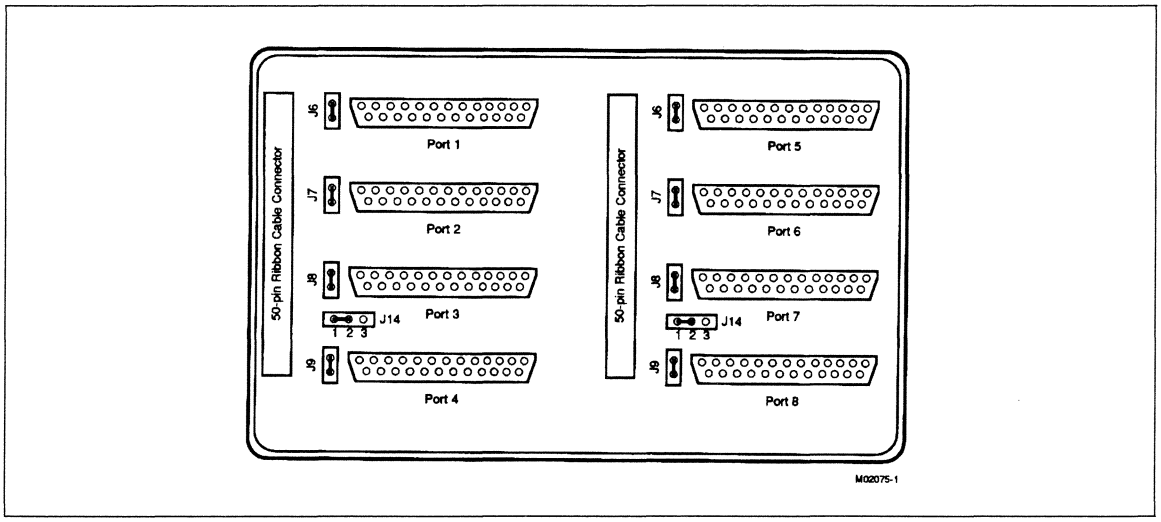

Figure 7-2. Multiport Network Adapter Housing Jumper Locations (Inside View)

___ 8. When installation is complete, power on the monitor and CCU, then execute the HOSTESS diagnostic. Refer to instructions for Running Multiport Network Adapter Diagnostics in chapter 6 of this manual.

___ 9. Connect the external cables removed in step 2 of this procedure to the adapter housing ports. For additional information, refer to figure 4-3 in chapter 4 of this manual.

Adapter Card Remove/Replace Procedure (CC598-A/B/D/E)

The Multiport Network Adapter consists of two assemblies: the adapter logic card and the 8-connector adapter housing. Use the following procedure to remove and replace the adapter card within the CCU.

CAUTION

Wear an antistatic wrist strap during the following steps to prevent damage to logic board components.

___ 1. Remove the adapter housing from the CCU and disconnect the shielded cables from the adapter housing as described under Adapter Housing Remove/Replace Procedure, earlier in this chapter.

___ 2. Power down the monitor, CCU, and any peripherals connected to the CCU.

___ a. Disconnect the power cord from the CCU.

___ b. Disconnect the video monitor from the CCU and move it to the side.

___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 3. Remove the screws holding on the CCU cover, then remove the cover. Retain the screws for reassembly.

___ 4. Connect an antistatic wrist strap between your wrist and the CCU frame.

___ 5. Remove the Phillips screw in the support bracket that holds the adapter card in place. The adapter card is mounted in slot 6 on CC598-A/B models and slot 2 on CC598-D/E models.

___ 6. Remove the adapter card, carefully pulling the two round shielded cables through the backpanel slot.

___ 7. Note the switch and jumper settings, place the card in an antistatic bag, and set it aside for later packaging and return to Control Data for service.

___ 8. Transfer the grounding strap of the antistatic wrist strap from the CCU frame to an antistatic work pad.

___ 9. Place the new adapter logic card on the antistatic work pad and set its switches to the same settings as those on the card removed. These settings are as follows (see also figure 7-3).

___ a. Set SW1 (I/O Port Base Address) to 140_{16}. Note that SW1 is mounted upside down on the board.

Positions	Setting
1,2,4	OFF
3,5,6,7,8	ON

___ b. Set SW2 (Interrupt Request Line) to Interrupt Request 3. Note that SW2 is mounted upside down on the board.

Positions	Setting
1,2,4,5,6,7,8	OFF
3	ON

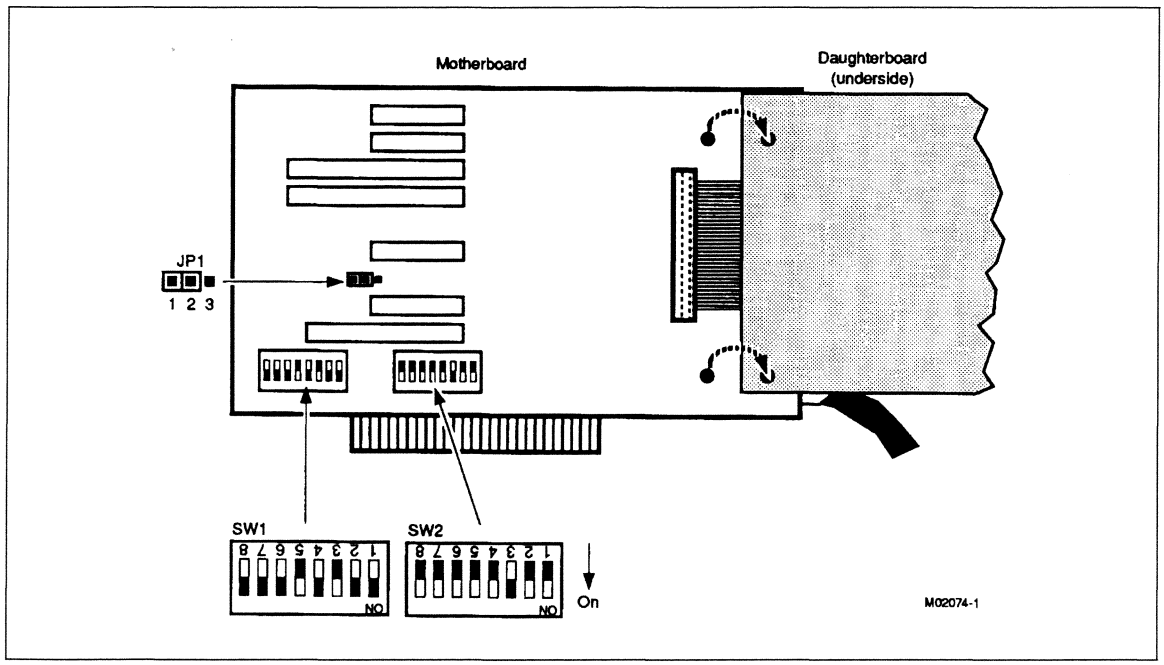

Figure 7-3. Multiport Network Adapter Logic Card Switches and Jumper

___10. Ensure that a jumper plug is installed between pins 1 and 2 of jumper JP1 on the adapter card motherboard. Since JP1 is located beneath the adapter card daughterboard, you must observe the following steps.

___ a. Remove the daughterboard by using a small flat blade screwdriver to gently pry the daughterboard from the motherboard at the two mounting posts. Grasp the daughterboard and carefully loosen the connector end from the motherboard.

___ b. Reinstall the daughterboard by lining up the pins and posts of the two boards, support the motherboard directly under plug and press on both sides of the connector on the daughterboard to seat the connector. One at a time, press firmly on each post to snap them into place.

___11. Transfer the antistatic wrist strap from antistatic work pad to the CCU frame.

___12. Install the new adapter card by reversing steps 1 through 6 of this procedure.

___13. When installation is complete, power on the monitor and CCU, then execute the HOSTESS diagnostic. Refer to instructions for Running Multiport Network Adapter Diagnostics in chapter 6 of this guide.

Disk Drive Remove/Replace Procedure (CC598-A)

CAUTION

Wear an antistatic wrist strap during the following steps to prevent damage to logic board components.

The hard disk drive within the CCU of a CC598-A console is located adjacent to the floppy disk drive (see figure 7-4). Use the following procedure to remove and replace the disk drive within the CCU of a CC598-A console.

___ 1. Power down the monitor, CCU, and any peripherals connected to the CCU.

___ a. Disconnect the power cord to the CCU.

___ b. Disconnect the video monitor from the CCU and move it to the side.

___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 2. Remove the cover from the CCU by removing the two screws from each side, and one screw each from the upper right and left rear corners. Retain the screws for reassembly.

___ 3. Disconnect the ribbon cable to the hard disk drive (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connector.

___ 4. Disconnect the ribbon cable to the floppy disk drive (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connector.

___ 5. Remove the small Phillips screw from the lower front center of the CCU chassis which secures the right-hand drive chassis (the right-hand drive chassis contains the floppy disk drive). Retain the Phillips screw for reassembly, then remove the right-hand drive chassis by sliding it toward the rear of the CCU and lift it out.

___ 6. Remove the small Phillips screw from the lower front center of the CCU chassis which secures the center drive chassis (the center drive chassis contains the hard disk drive). Retain the Phillips screw for reassembly, then remove the center drive chassis by sliding it toward the rear of the CCU and lift it out.

___ 7. Remove the four screws securing the disk drive to the center drive chassis and remove the disk drive. Retain the screws for reassembly.

___ 8. Install a new hard disk drive, reinstall the center drive chassis, reinstall the right-hand drive chassis, reconnect all cables, and reinstall all cabinet hardware by reversing steps 1 through 7.

___ 9. Initialize the new hard disk drive as described later in this chapter.

___ 10. Install software on the new hard disk drive as described in chapter 3 of this manual.

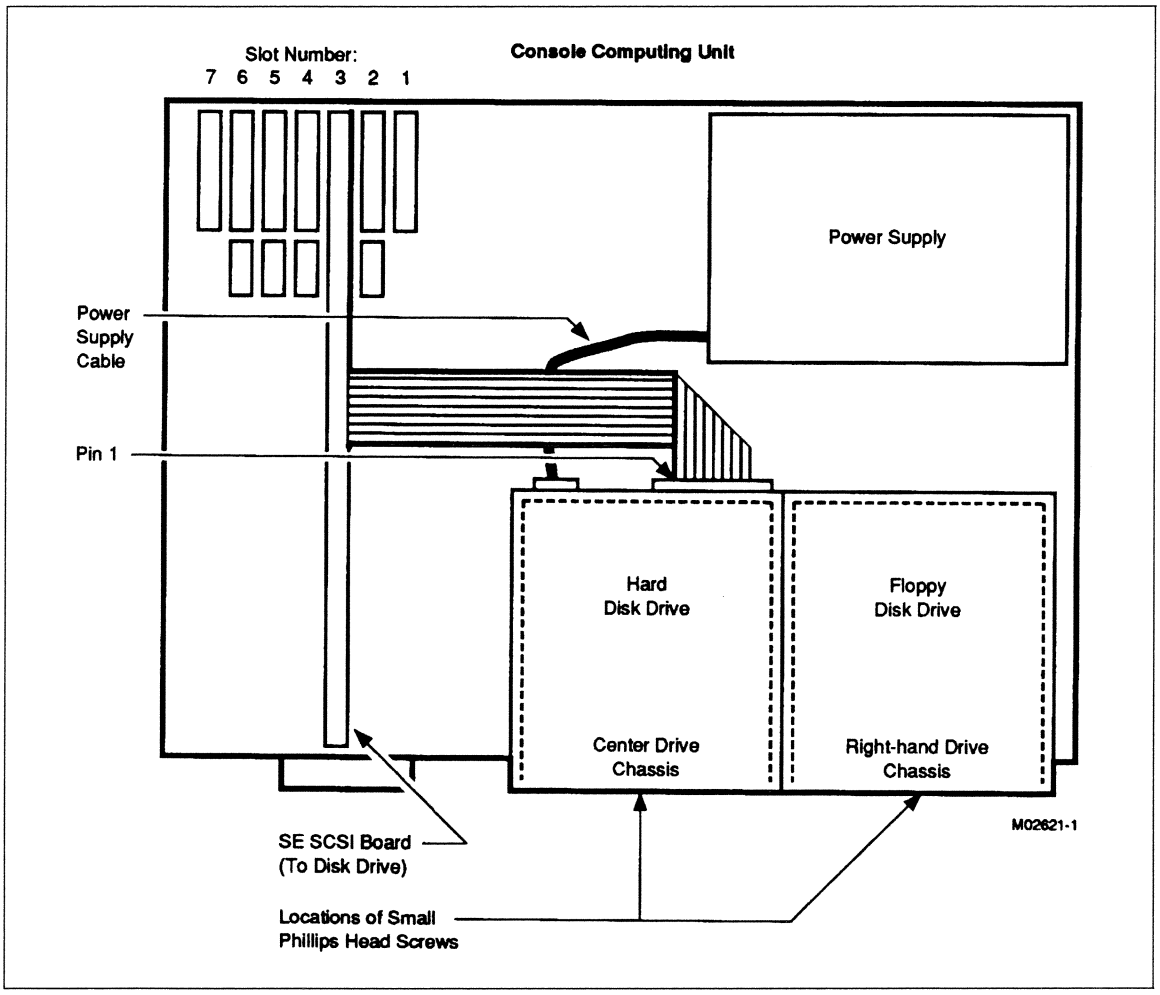

Figure 7-4. Connections for Hard Disk Drive (CC598-A)

Differential SCSI Board Remove/Replace Procedure (CC598-A)

Remove and replace the differential Small Computer Systems Interface (SCSI) board within the CCU of a CC598-A console according to the following procedure (see figures 7-5 and 7-6).

CAUTION

Wear an antistatic wrist strap during the following steps to prevent damage to logic board components.

___ 1. Power down the monitor, CCU, and any peripherals connected to the CCU.

___ a. Disconnect the power cord to the CCU.

___ b. Disconnect the video monitor from the CCU and move it to the side.

___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 2. Remove the cover from the CCU by removing the two screws from each side, and one screw each from the upper right and left rear corners. Retain the screws for reassembly.

___ 3. Disconnect the ribbon cable to the hard disk drive (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connector.

___ 4. Disconnect the ribbon cable to the floppy disk drive (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connector.

___ 5. Remove the small Phillips screw from the lower front center of the CCU chassis which secures the right-hand drive chassis (the right-hand drive chassis contains the floppy disk drive). Retain the Phillips screw for reassembly, then remove the right-hand drive chassis by sliding it toward the rear of the CCU and lift it out.

___ 6. Remove the small Phillips screw from the lower front center of the CCU chassis which secures the center drive chassis (the center drive chassis contains the hard disk drive). Retain the Phillips screw for reassembly, then remove the center drive chassis by sliding it toward the rear of the CCU and lift it out.

___ 7. Remove the four screws securing the disk drive to the center drive chassis and remove the disk drive. Retain the screws for reassembly.

___ 8. Remove the four screws securing the differential SCSI board to the center drive chassis and slide it out. Retain the screws for reassembly.

___ 9. Appropriately mark the two ribbon cables as either single-ended and differential-ended for later reassembly (see figures 7-5 and 7-6), then remove both cables (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connections.

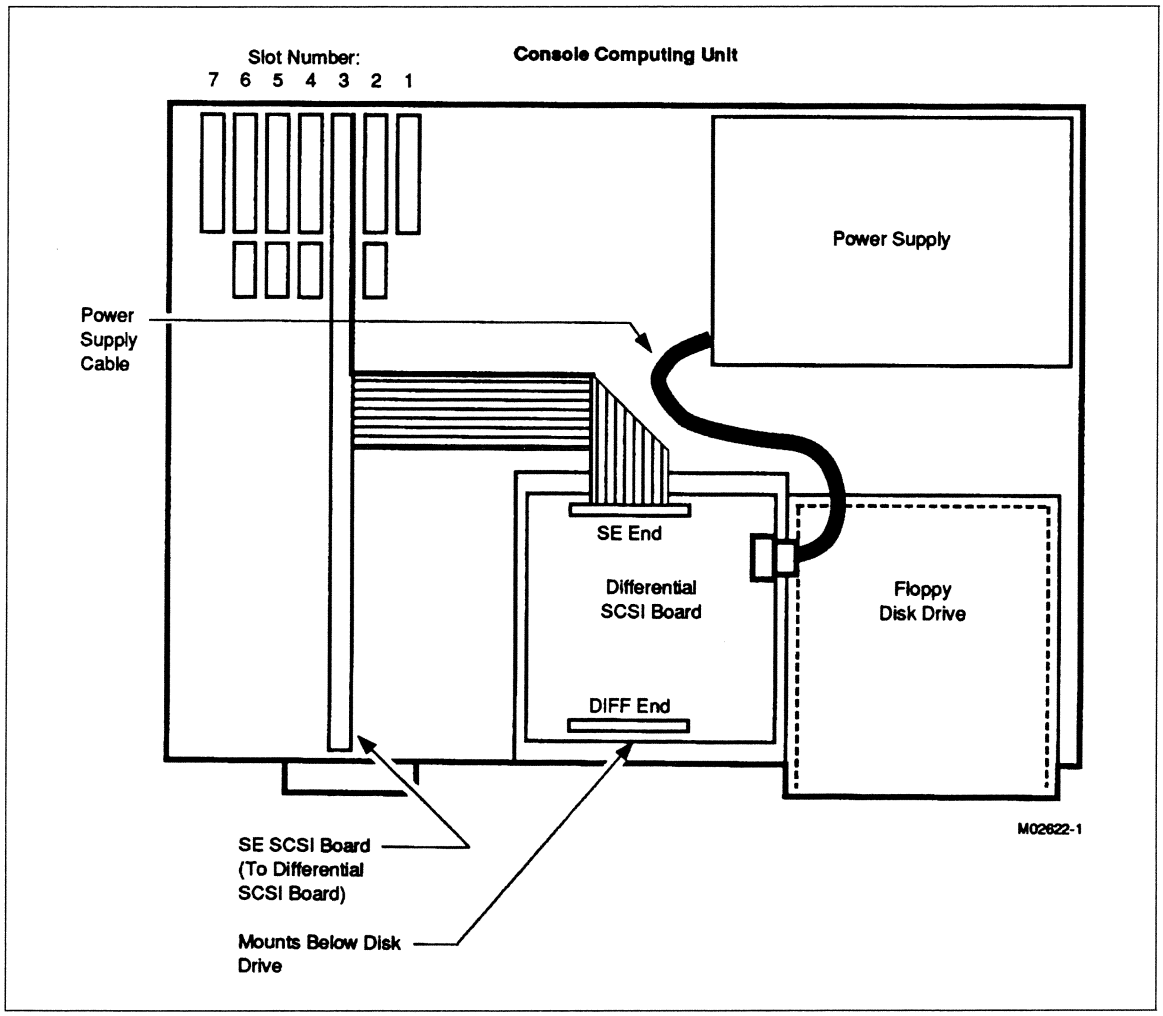

Figure 7-5. Connections for SE End of Differential SCSI Board

___ 10. Install a new differential SCSI board, reinstall the hard disk drive, replace the center drive chassis, replace the right-hand drive chassis, replace all cables, and reinstall all cabinet hardware by reversing steps 1 through 9.

___ 11. Apply power to the monitor and CCU, then proceed with normal operations.

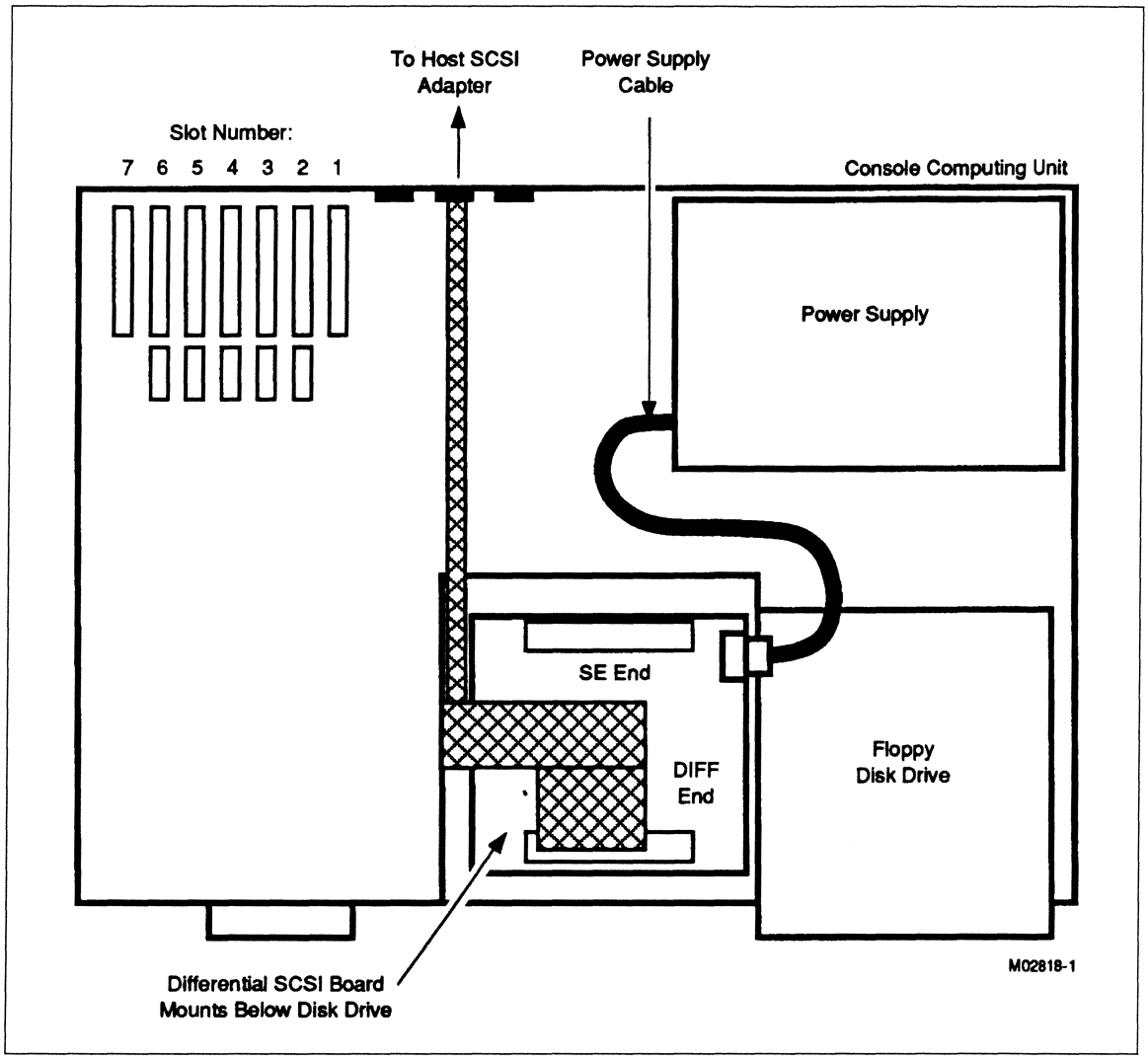

Figure 7-6. Connections for DIFF End of Differential SCSI Board

SE SCSI Board Remove/Replace Procedure (CC598-A)

Remove and replace the single-ended (SE) SCSI board(s) in the CCU of a CC598-A console according to the following procedures. There are two such boards in the CCU of a CC598-A console; the board in card slot 3 of the motherboard is connected to the differential SCSI boards SE connector by a ribbon cable, and the board in card slot 4 is connected to the hard disk drive by another ribbon cable.

As each of these boards require different placement of on-board pin jumpers, be sure to pay special attention to this fact when installing a new board.

CAUTION

Wear an antistatic wrist strap during the following steps to prevent damage to logic board components.

The following removal steps apply to both SE SCSI boards unless otherwise indicated.

___ 1. Power down the monitor, CCU, and any peripherals connected to the CCU.

___ a. Disconnect the power cord to the CCU.

___ b. Disconnect the video monitor from the CCU and move it to the side.

___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 2. Remove the cover from the CCU by removing the two screws from each side, and one screw each from the upper right and left rear corners. Retain the screws for reassembly.

___ 3. Remove the SE SCSI board by performing either step a or b as follows.

___ a. To remove the SE SCSI Board from card slot 3, remove the Phillips screw securing the SE SCSI board to card slot 3, then lift the board out of the CCU. Disconnect the ribbon cable connected to the SE end of the differential SCSI board (see figure 7-5). Note that the colored stripe on the ribbon cable aligns with pin 1 of the connector.

___ b. To remove the SE SCSI Board from card slot 4, remove the Phillips screw securing the SE SCSI board to card slot 4, then lift the board out of the CCU. Disconnect the ribbon cable connected to the hard disk drive (see figure 7-4). Note that the colored stripe on the ribbon cable aligns with pin 1 of the connector.

___ 4. Place the new SE SCSI board on an antistatic mat and set its jumper positions to those of the card removed by completing either step a or b as follows.

___ a. If installing a new SE SCSI board in card slot 3, set its jumper positions to those of the card removed from the same slot. These positions are as follows (see also figure 7-7).

Location	Jumper Connections
STRAP W1	Apply jumper to A3. Apply jumper to A4. Apply jumper to A6. Apply jumper to A7. Apply jumper to BD EN.
STRAP W2	Apply jumper between pins A and B of A12 Apply jumper between pins B and C of A13. Apply jumper between pins B and C of A14. Apply jumper to A15. Remove jumper from ROMEN (if present) and use on STRAP W6, IRQ=11.
STRAP W3	No jumpers.
STRAP W4	No jumpers.
STRAP W5	Apply jumper to D3.
STRAP W6	Apply jumper to DRQ=6. Apply jumper to DACK=6. Apply jumper from ROMEN (as noted above under STRAP W2) to IRQ=11.

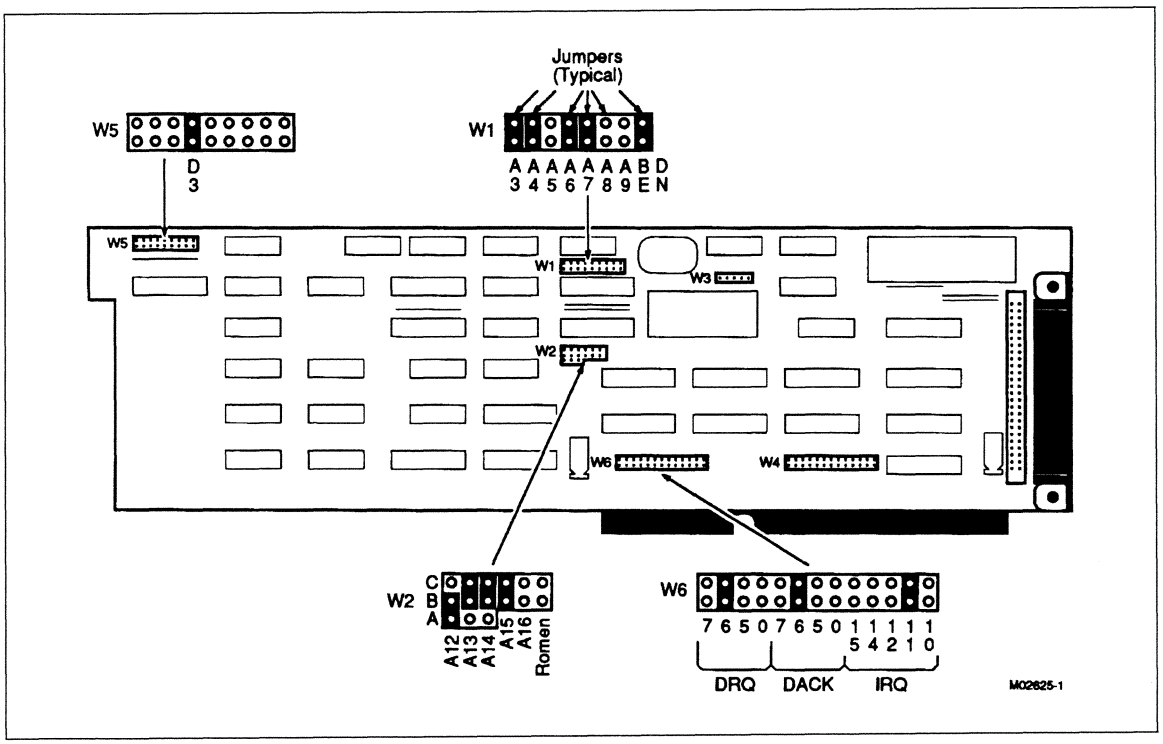

Figure 7-7. Jumper Strap Locations on SE SCSI Board for Card Slot 3

___ b. If installing a new SE SCSI board in card slot 4, set its jumper positions to those of the card removed from the same slot. These positions are as follows (see also figure 7-8).

Location	Jumper Connections
STRAP W1	Apply jumper to A3. Apply jumper to A4. Apply jumper to A5. Apply jumper to A7. Apply jumper to BD EN.
STRAP W2	Apply jumper between pins A and B of A12 Apply jumper between pins B and C of A13. Apply jumper between pins B and C of A14. Apply jumper to A15. Apply jumper to ROMEN.
STRAP W3	No jumpers.
STRAP W4	No jumpers.
STRAP W5	Apply jumper to D3.
STRAP W6	Apply jumper to DRQ=5. Apply jumper to DACK=5.

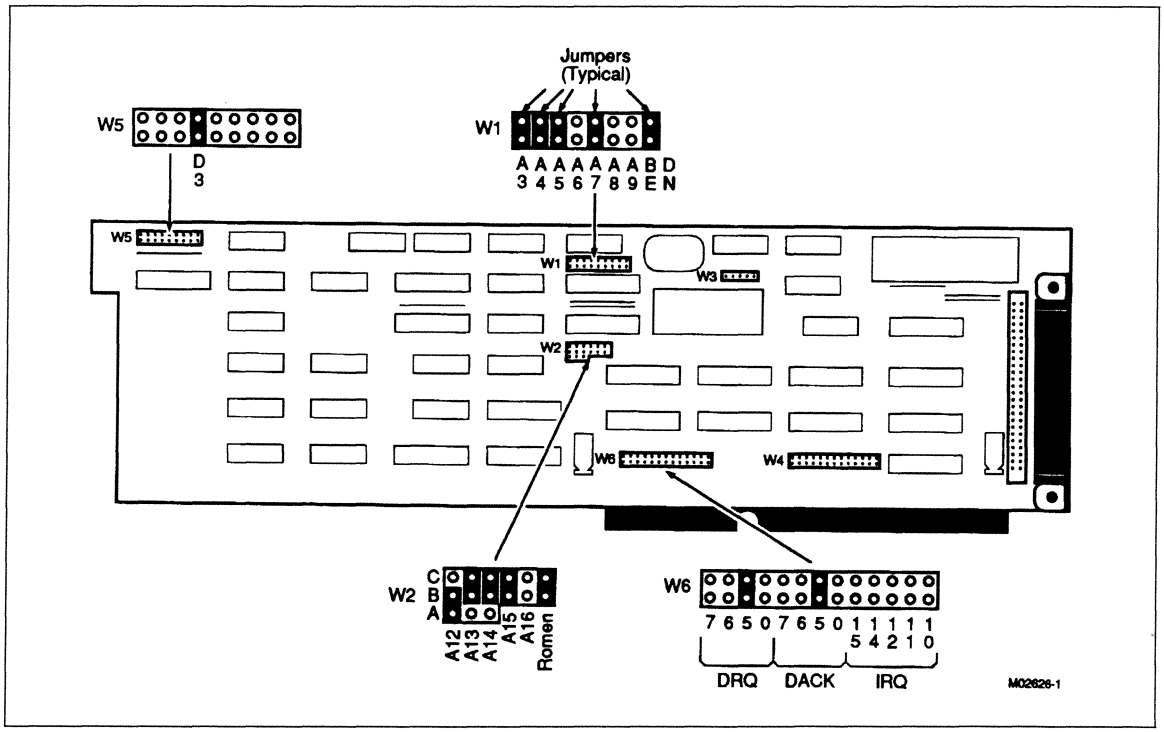

Figure 7-8. Jumper Strap Locations on SE SCSI Board for Card Slot 4

___ 5. Install the new SE SCSI board(s) and reinstall all cabinet hardware by reversing steps 1 through 3.

___ 6. Apply power to the monitor and CCU, then proceed with normal operations.

Hard Disk Drive Remove/Replace Procedure (CC598-B)

CAUTION

Wear an antistatic wrist strap during the following steps to prevent damage to logic board components.

The hard disk drive within the CCU of a CC598-B console is located under the floppy disk drive (see figure 7-9). Use the following procedure to remove and replace the disk drive within the CCU of a CC598-B console.

___ 1. Power down the monitor, CCU, and any peripherals connected to the CCU.

___ a. Disconnect the power cord to the CCU.

___ b. Disconnect the video monitor from the CCU and move it to the side.

___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 2. Remove the cover from the CCU by removing the two screws from each side, and one screw each from the upper right and left rear corners. Retain the screws for reassembly.

___ 3. Disconnect the ribbon cable to the floppy disk drive (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connector.

___ 4. Disconnect the ribbon cable to the hard disk drive (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connector.

___ 5. Remove the small Phillips screw from the lower front center of the CCU chassis which secures the right-hand drive chassis (the right-hand drive chassis contains both the floppy and hard disk drives). Retain the Phillips screw for reassembly, then remove the right-hand drive chassis by sliding it toward the rear of the CCU and lift it out.

___ 6. Remove the four screws securing the floppy disk drive to the right-hand drive chassis and remove it from the chassis. Retain the screws for reassembly.

___ 7. Remove the four screws securing the hard disk drive to the right-hand drive chassis and remove it from the chassis. Retain the screws for reassembly.

___ 8. Install the new disk drive, reinstall the floppy disk drive, replace the right-hand drive chassis, reconnect the ribbon cables to the floppy disk drive and hard disk drive, and reinstall all cabinet hardware by reversing the preceding steps. Ensure that the jumper on back of the drive is in the location shown in figure 7-10.

___ 9. Initialize the hard disk drive as described later in this chapter.

___ 10. Install software on the hard disk drive as described in chapter 3.

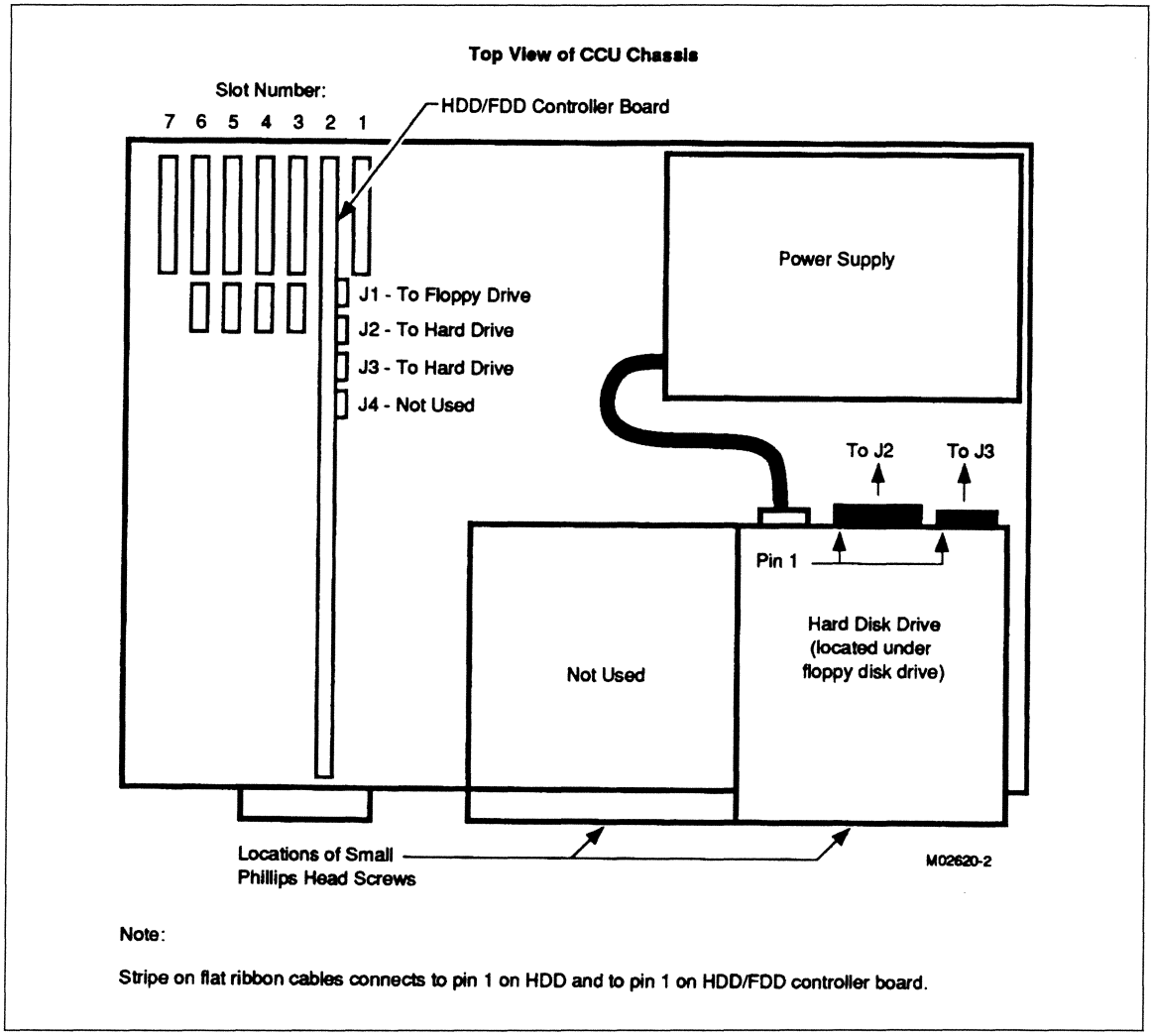

Figure 7-9. Connections for Hard Disk Drive (CC598-B)

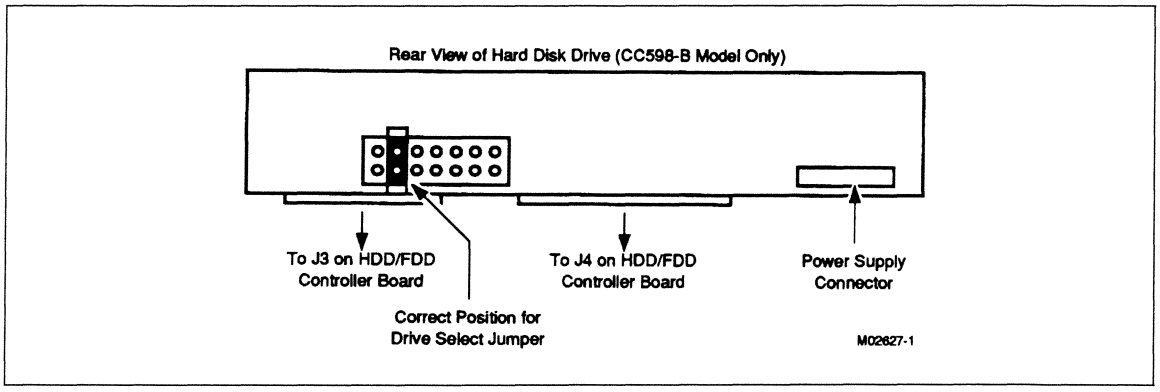

Figure 7-10. Jumper Placement on Hard Disk Drive (CC598-B)

Hard Disk Drive Remove/Replace Procedure (CC598-D/E)

CAUTION

Wear an antistatic wrist strap during the following steps to prevent damage to logic board components.

The hard disk drive within the CCU of a CC598-D/E console is mounted vertically in the center of the CCU cabinet (see figure 7-11). Use the following procedure to remove and replace the disk drive within the CCU of a CC598-D/E console.

___ 1. Power down the monitor, CCU, and any peripherals connected to the CCU.

  ___ a. Disconnect the power cord to the CCU.

  ___ b. Disconnect the video monitor from the CCU and move it to the side.

  ___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 2. Remove the cover from the CCU by removing one screw each from the upper right and left rear corners. Retain the screws for reassembly.

___ 3. Disconnect the ribbon cable from the hard disk drive (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connector from the hard drive.

___ 4. Remove the small retaining screw from the upper-left corner of the hard drive mounting bracket (see figure 7-11). Retain the Phillips screw for reassembly.

___ 5. With a small screwdriver, press down on the retaining notch referenced in figure 7-11, then gently slide the hard drive assembly towards the front of the CCU. The assembly moves roughly 1/4 inch until it can be pulled away from the CCU chassis. Remove the hard drive assembly from the CCU and place it on an antistatic work mat.

___ 6. Remove the screws securing the hard disk drive to its mounting bracket. Retain the screws for reassembly.

___ 7. Install the new disk drive, reconnect all cables, and reinstall all cabinet hardware by reversing steps 1 through 6.

___ 8. Initialize the hard disk drive as described later in this chapter.

___ 9. Install software on the hard disk drive as described in chapter 3 of this manual.

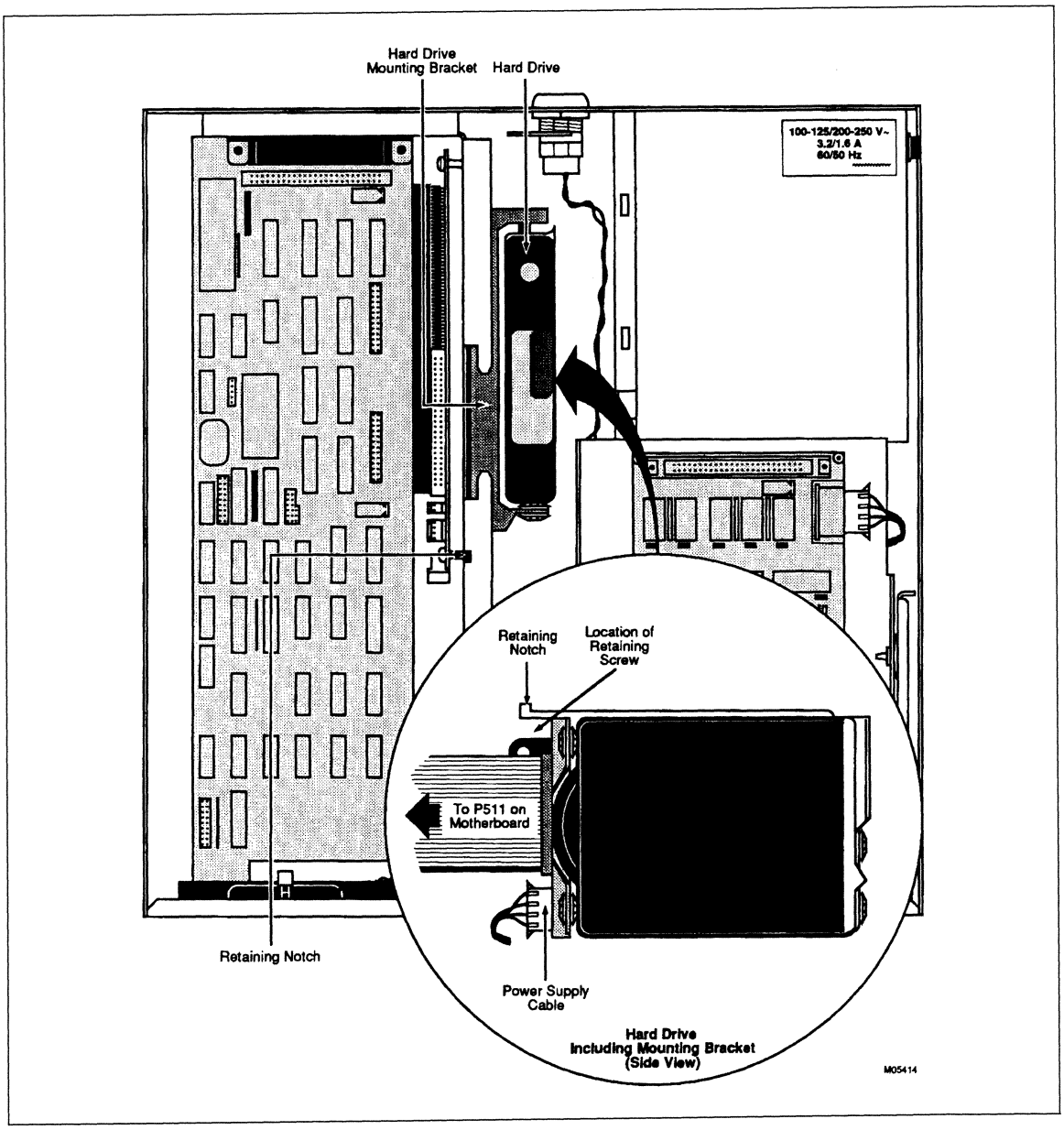

Figure 7-11. Connections for Hard Disk Drive (CC598-D/E)

Differential SCSI Board Remove/Replace Procedure (CC598-D)

Remove and replace the differential Small Computer Systems Interface (SCSI) board according to the following procedure (see figure 7-12).

CAUTION

Wear an antistatic wrist strap during the following steps to prevent damage to logic board components.

___ 1. Power down the monitor, CCU, and any peripherals connected to the CCU.

- ___ a. Disconnect the power cord from the CCU.
- ___ b. Disconnect the video monitor from the CCU and move it to the side.
- ___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 2. Remove the cover from the CCU by removing one screw each from the upper right and left rear corners. Retain the screws for reassembly.

___ 3. Mark the single-ended and differential-ended ribbon cables attached to the differential SCSI board (see figures 7-12 and 7-13), then disconnect both cables (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector). Disconnect the power cable connection.

___ 4. Remove the four screws securing the differential SCSI board to the CCU, then remove the board from the CCU. Retain the screws for reassembly.

___ 5. Install a new differential SCSI board, reconnect all cables, and reinstall all cabinet hardware by reversing steps 1 through 4.

___ 6. Apply power to the monitor and CCU, then proceed with normal operations.

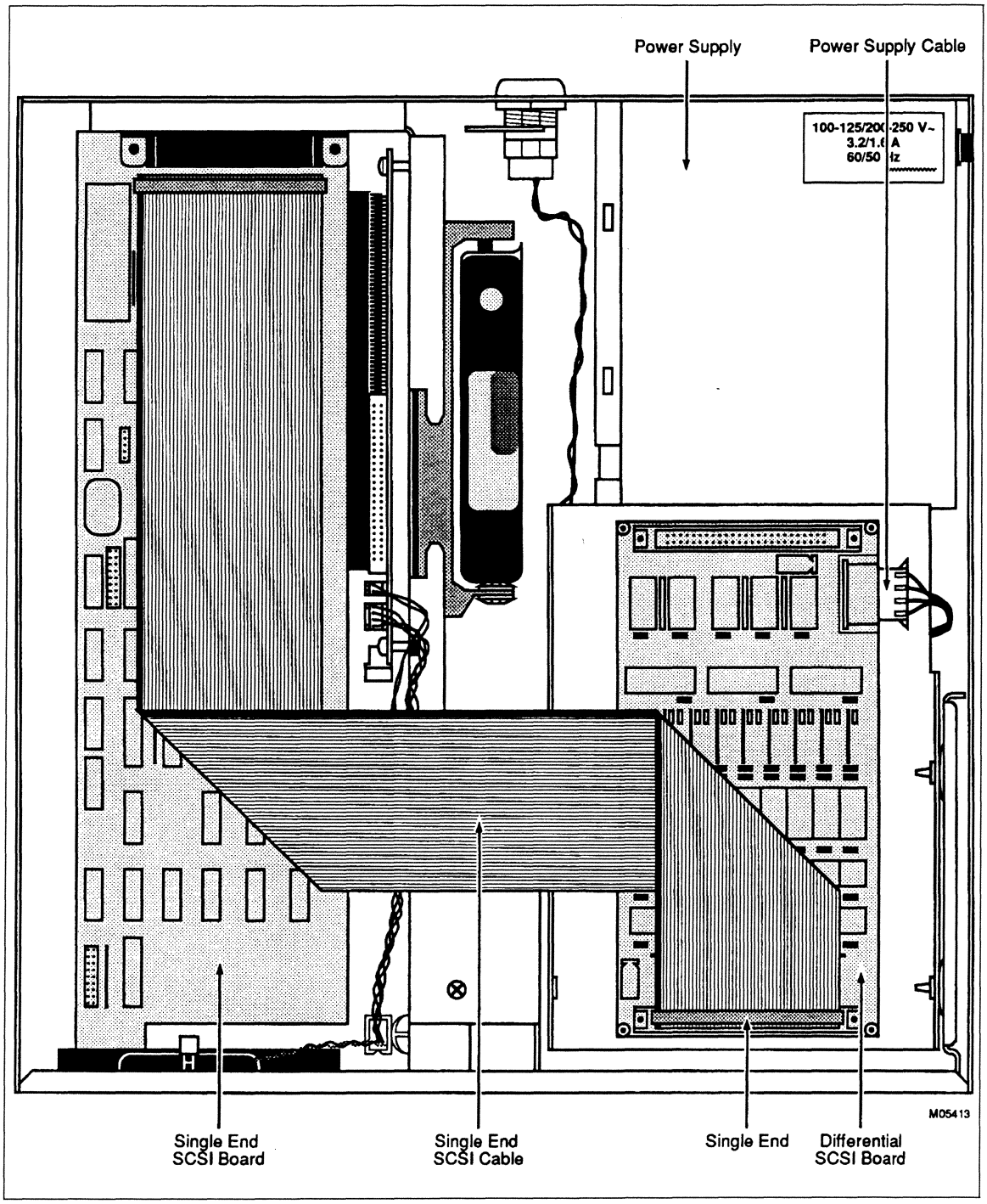

Figure 7-12. Connections for SE Differential SCSI Board

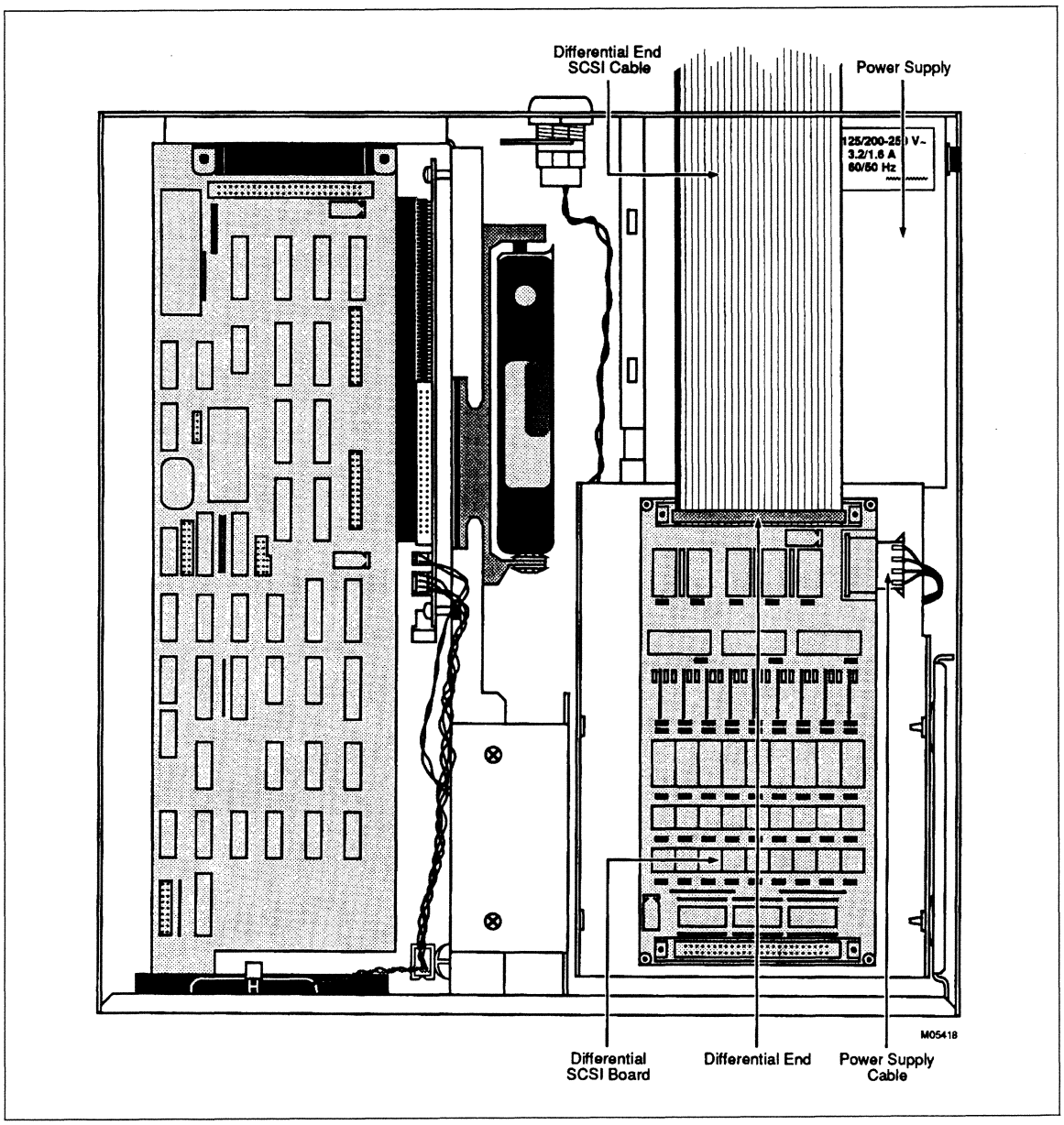

Figure 7-13. Connections for DIFF END of Differential SCSI Board

SE SCSI Board Remove/Replace Procedure (CC598-D)

Remove and replace the single-ended (SE) SCSI board in the CCU of a CC598-D console according to the following procedures.

CAUTION

Wear an antistatic wrist strap during the following steps to prevent damage to logic board components.

___ 1. Power down the monitor, CCU, and any peripherals connected to the CCU.

___ a. Disconnect the power cord from the CCU.

___ b. Disconnect the video monitor from the CCU and move it to the side.

___ c. Disconnect the keyboard from the CCU and move it to the side.

___ 2. Remove the cover from the CCU by removing one screw each from the upper right and left rear corners. Retain the screws for reassembly.

___ 3. Remove the Phillips screw securing the SE SCSI board. Retain the screw.

___ 4. Disconnect the ribbon cable connected to the SE end of the differential SCSI board (note that the colored stripe on the ribbon cable aligns with pin 1 of the connector).

___ 5. Remove the SE SCSI board from the CCU.

___ 6. Set the jumpers on the new SE SCSI board to the same settings as those on the card removed. These settings are as follows (see also figure 7-14).

Location	Jumper Connections
STRAP W1	Apply jumper to A3. Apply jumper to A4. Apply jumper to A6. Apply jumper to A7. Apply jumper to BD EN.
STRAP W2	Apply jumper between pins A and B of A12 Apply jumper between pins B and C of A13. Apply jumper between pins B and C of A14. Apply jumper to A15. Remove jumper from ROMEN (if present) and use on STRAP W6, IRQ=11.
STRAP W3	No jumpers.
STRAP W4	No jumpers.
STRAP W5	Apply jumper to D3.
STRAP W6	Apply jumper to DRQ=6. Apply jumper to DACK=6. Apply jumper from ROMEN (as noted above under STRAP W2) to IRQ=11.

___ 7. Install the new SE SCSI board and reinstall all cabinet hardware by reversing steps 1 through 5.

___ 8. Apply power to the monitor and CCU, then proceed with normal operations.

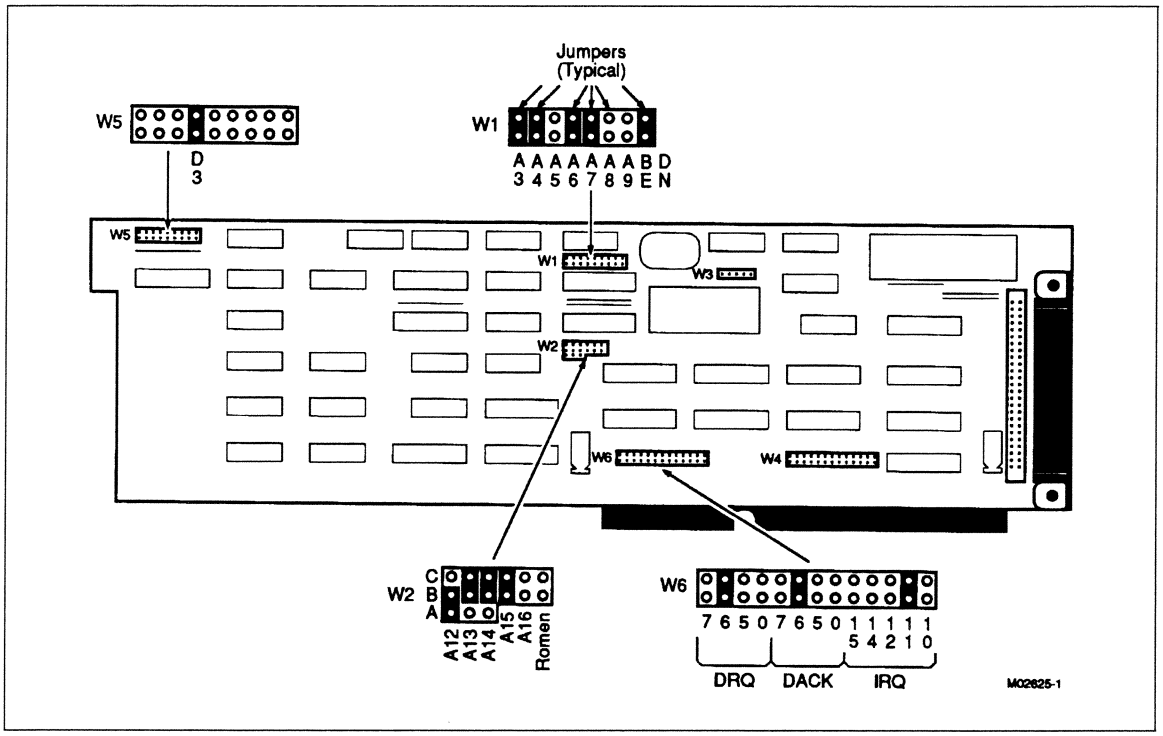

Figure 7-14. Jumper Strap Locations on SE SCSI Board

Initializing the Hard Disk

If the hard disk has been replaced, it is necessary to initialize it prior to installing software. Follow the directions contained in the CC598 Support Package Software Release Bulletin.

Appendixes

Hardware Quick Reference Diagrams **A-1**

Field Replaceable Units **B-1**

Error Codes **C-1**

Glossary **D-1**

Hardware Quick Reference Diagrams A

Appendix A provides board placement, switch setting information, and cabling diagrams that are used in maintaining the system console.

Title	Page
Top View of 12 MHz CCU Motherboard, Showing Logic Board Placement (CC598-A/B)	A-2
SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Differential SCSI Board (CC598-A)	A-3
SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Differential SCSI Board (CC598-D)	A-4
SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Hard Disk Drive (CC598-A)	A-5
Cable Connections to Hard Disk Drive (CC598-D/E)	A-6
Multiport Network Adapter Board Factory Switch Settings (CC598-A/B/D/E)	A-7
Paradise Video Board Factory Jumper Setting (CC598-A/B/D/E)	A-8
Ribbon Cable Connection From Diff End of Differential SCSI Board to SCSI Adapter in Host (CC598-A)	A-9
Ribbon Cable Connection From Diff End of Differential SCSI Board to SCSI Adapter in Host (CC598-D)	A-10
Rear Views of CCU (CC598-A/B)	A-11
Rear Views of CCU (CC598-D/E)	A-12
Location of HDD/FDD Controller Board and Hard Disk Drive (CC598-B)	A-13
Drive Select Jumper Placement on Hard Disk Drive (CC598-B)	A-14

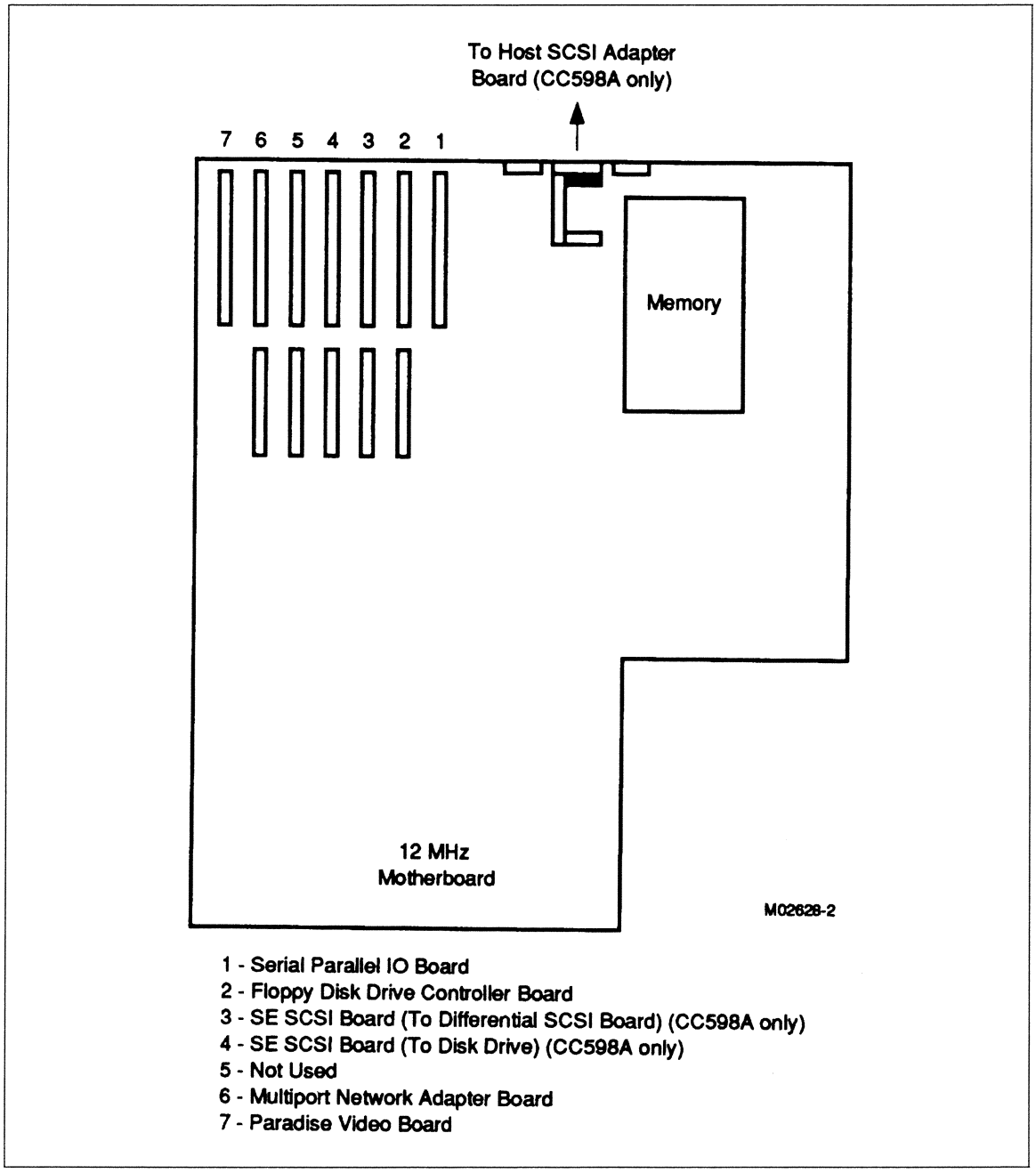

Figure A-1. Top View of 12 MHz CCU Motherboard, Showing Logic Board Placement (CC598-A/B)

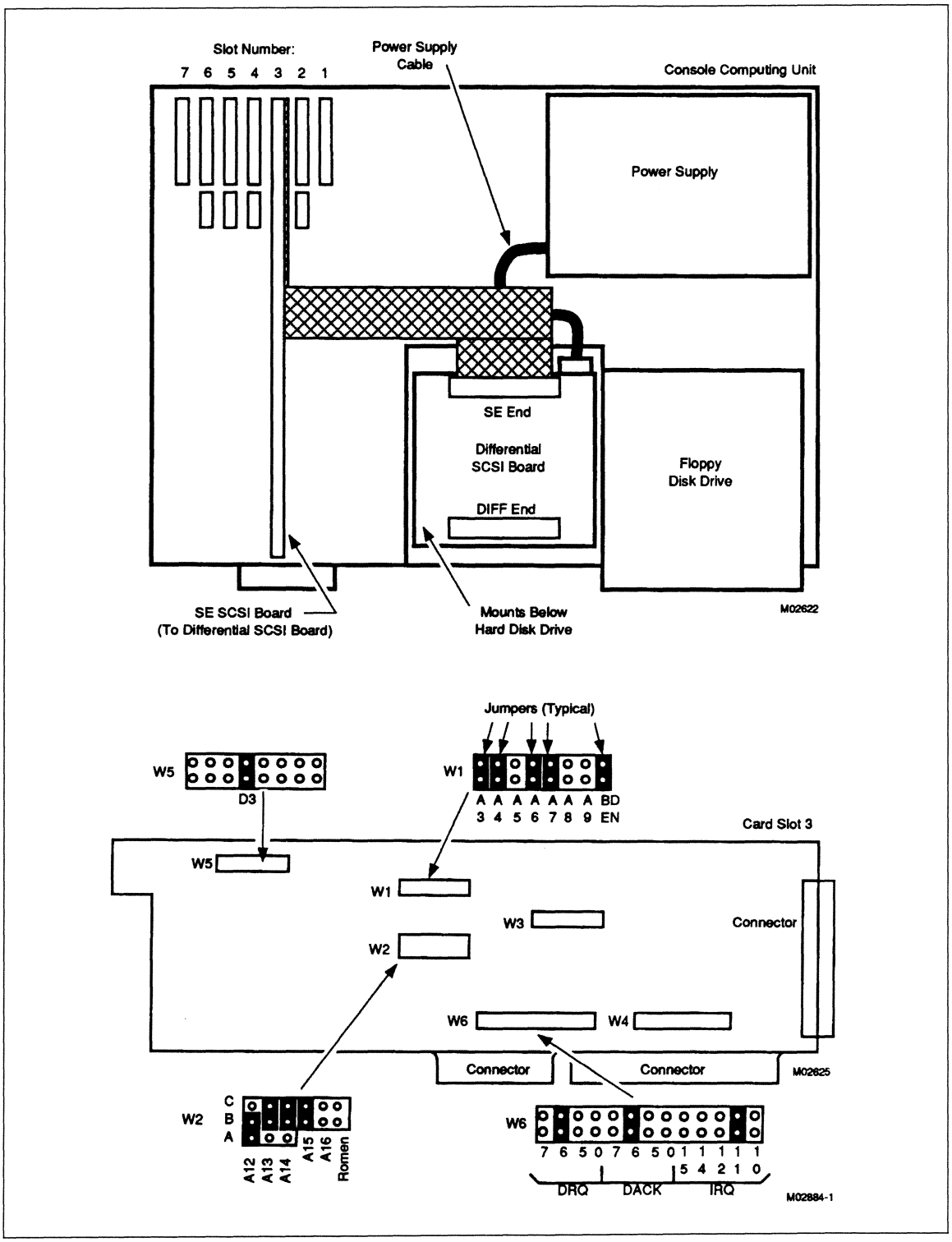

Figure A-2. SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Differential SCSI Board (CC598-A)

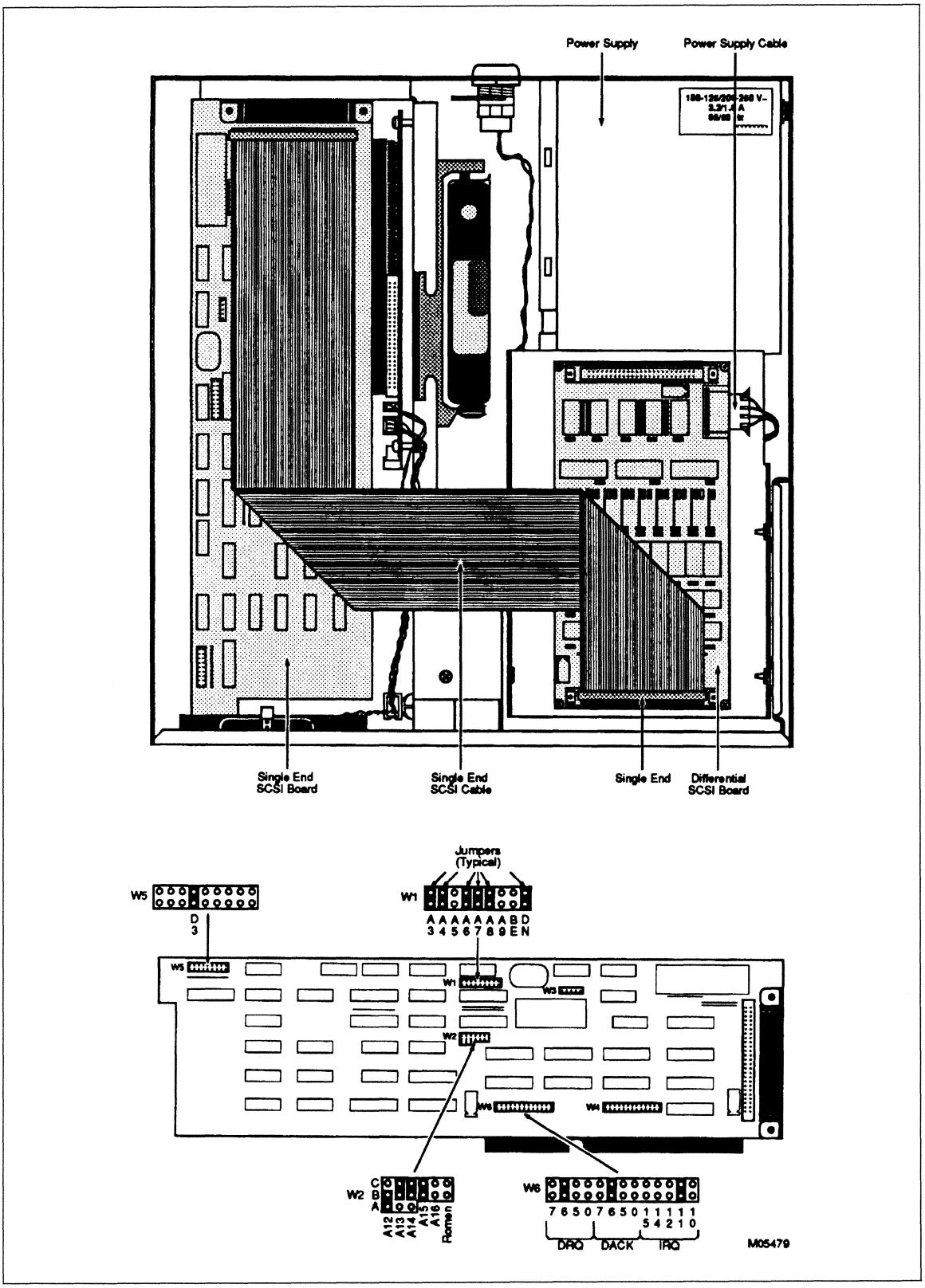

Figure A-3. SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Differential SCSI Board (CC598-D)

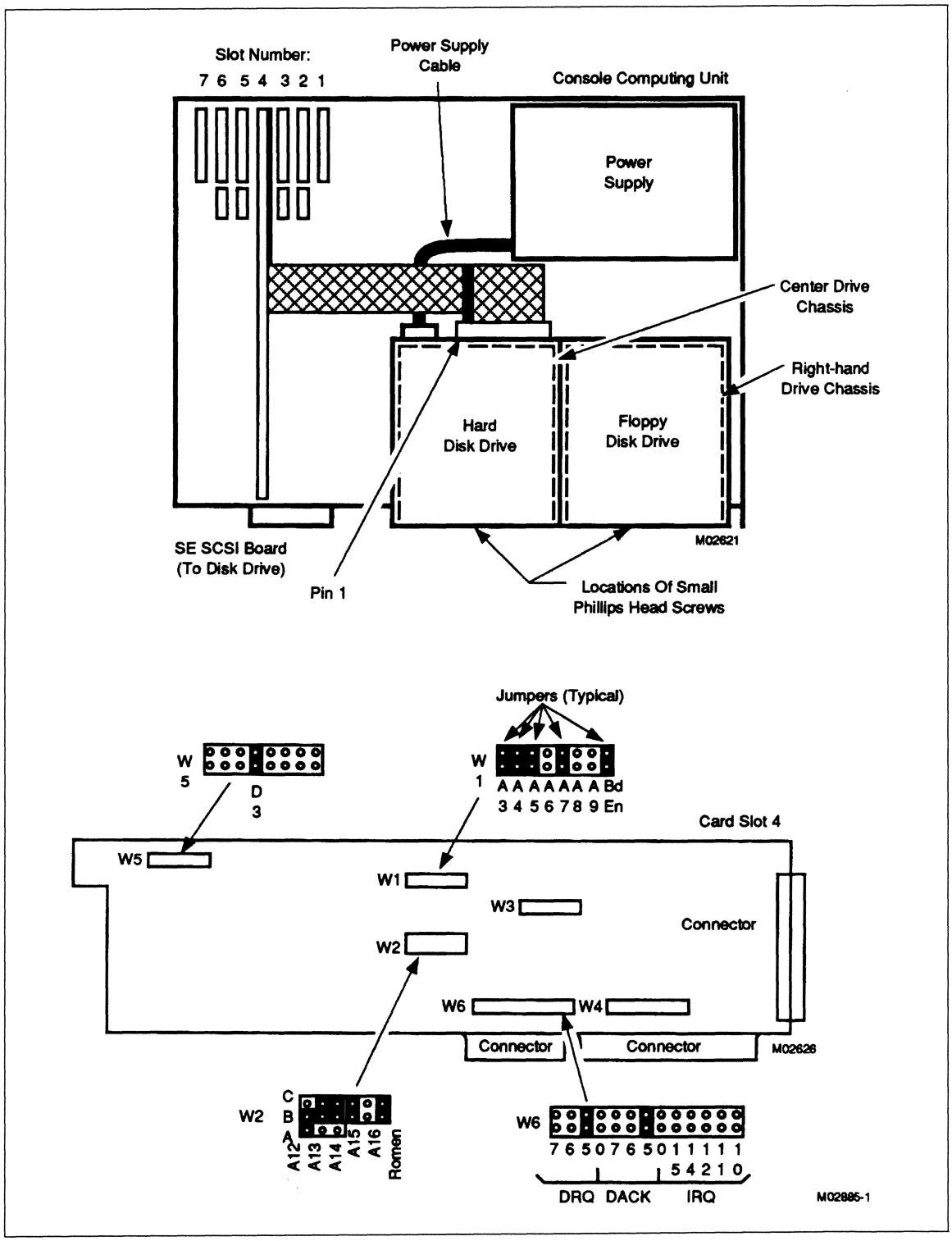

Figure A-4. SE SCSI Board Slot Insertion, Switch Settings, and Ribbon Cable Connections to Hard Disk Drive (CC598-A)

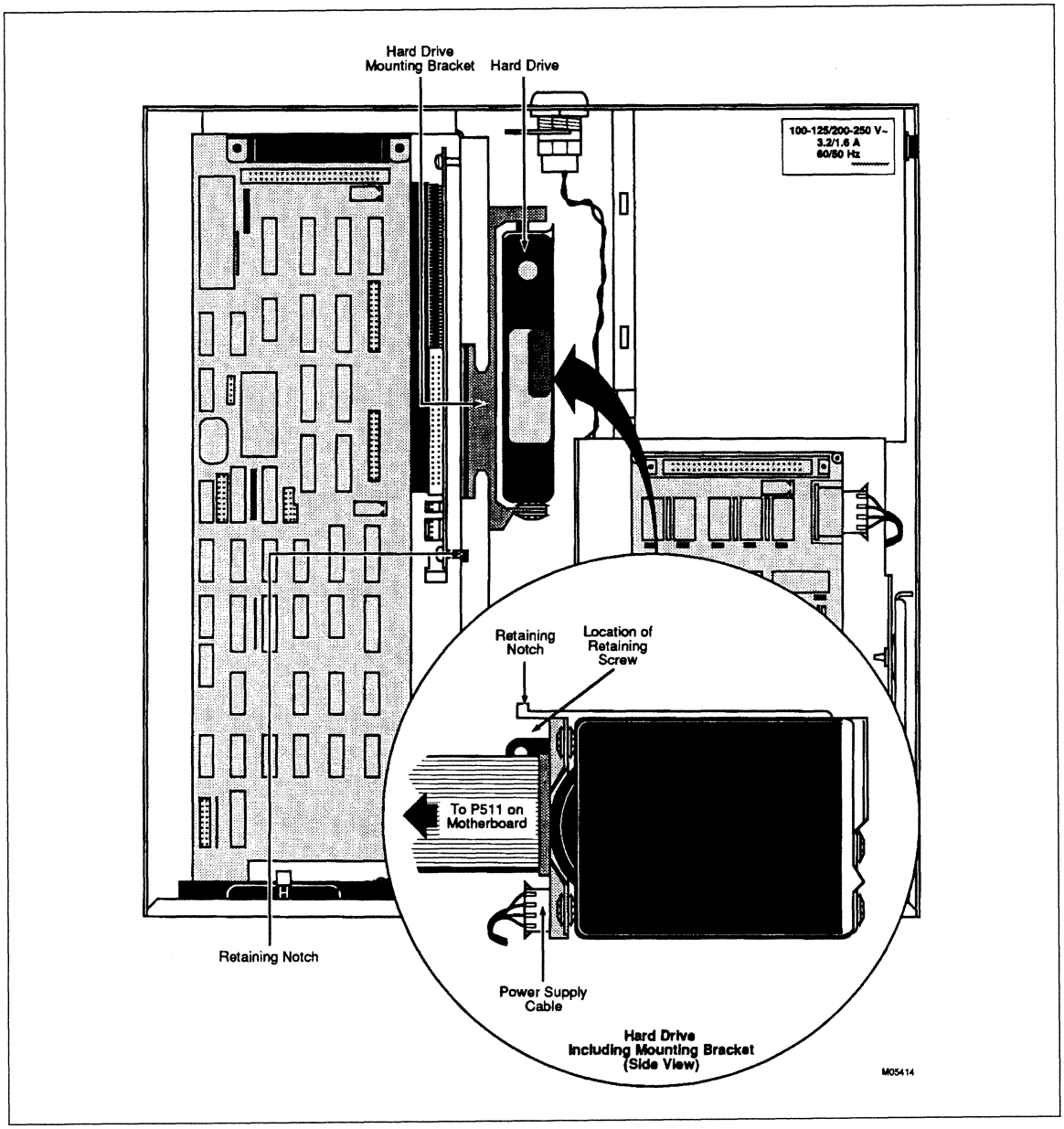

Figure A-5. Cable Connections to Hard Disk Drive (CC598-D/E)

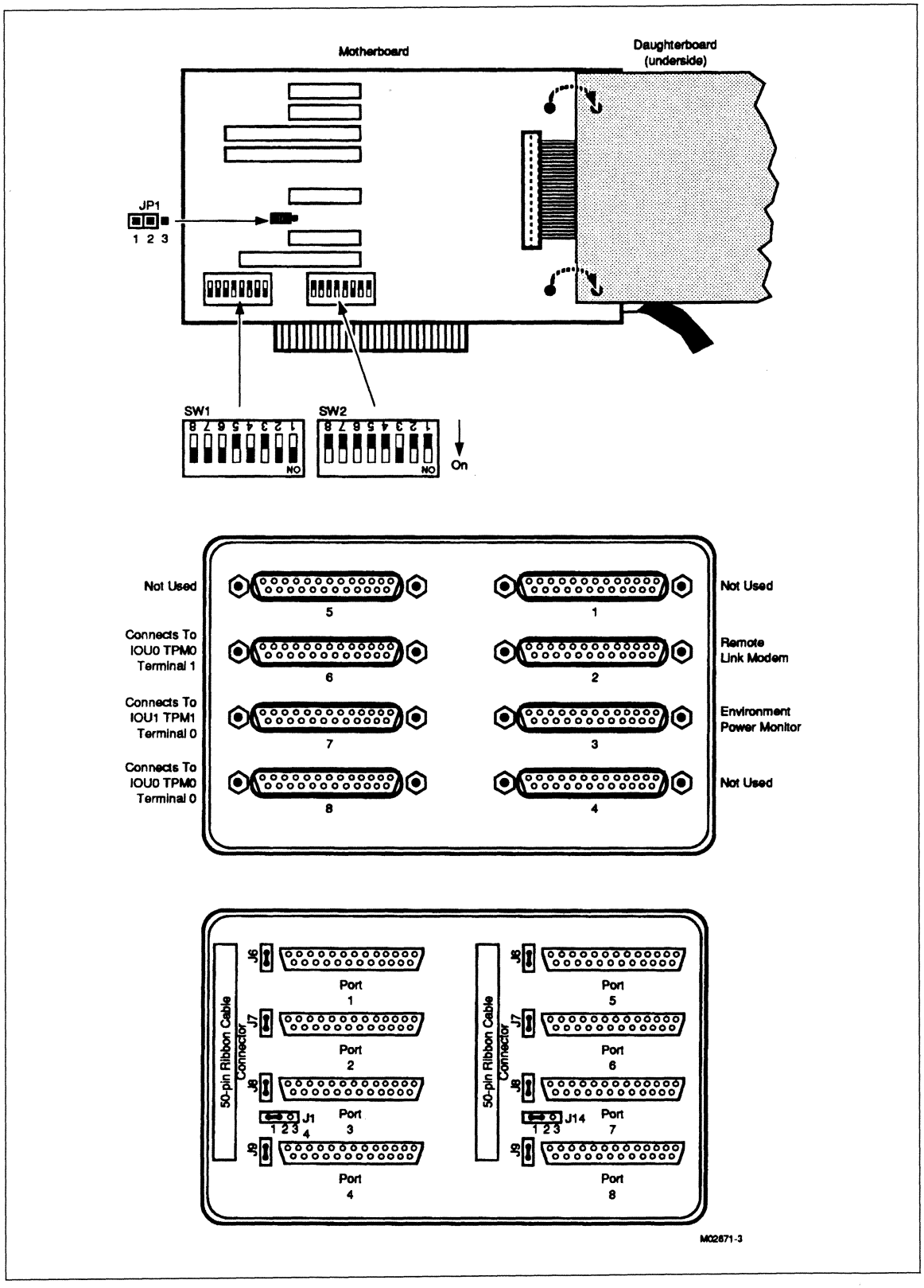

Figure A-6. Multiport Network Adapter Board Factory Switch Settings (CC598-A/B/D/E)

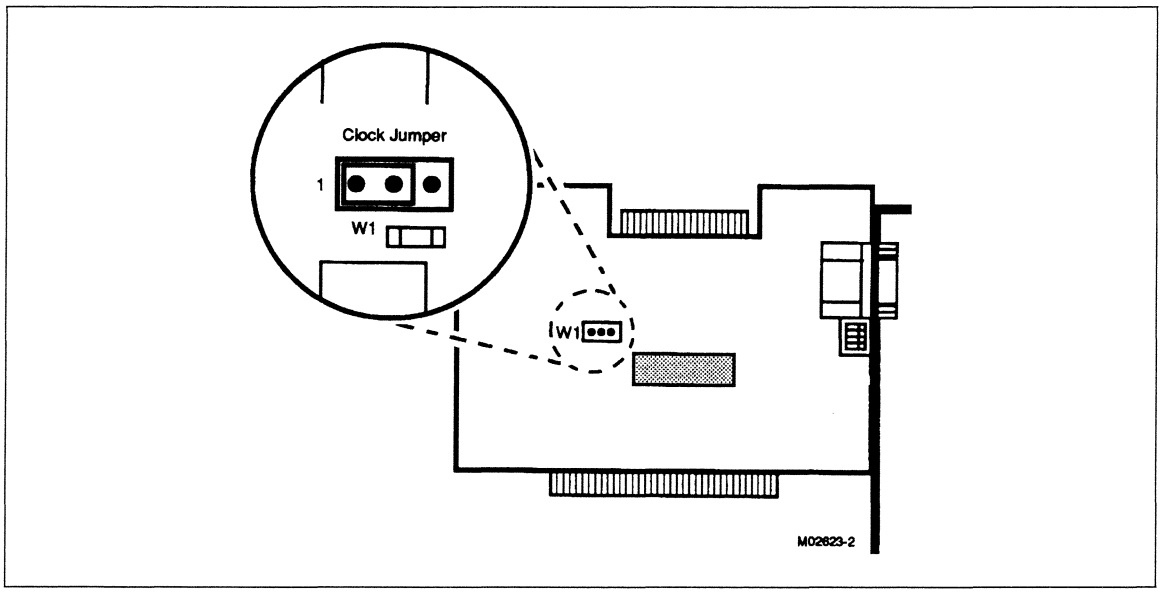

Figure A-7. Paradise Video Board Factory Jumper Setting (CC598-A/B/D/E)

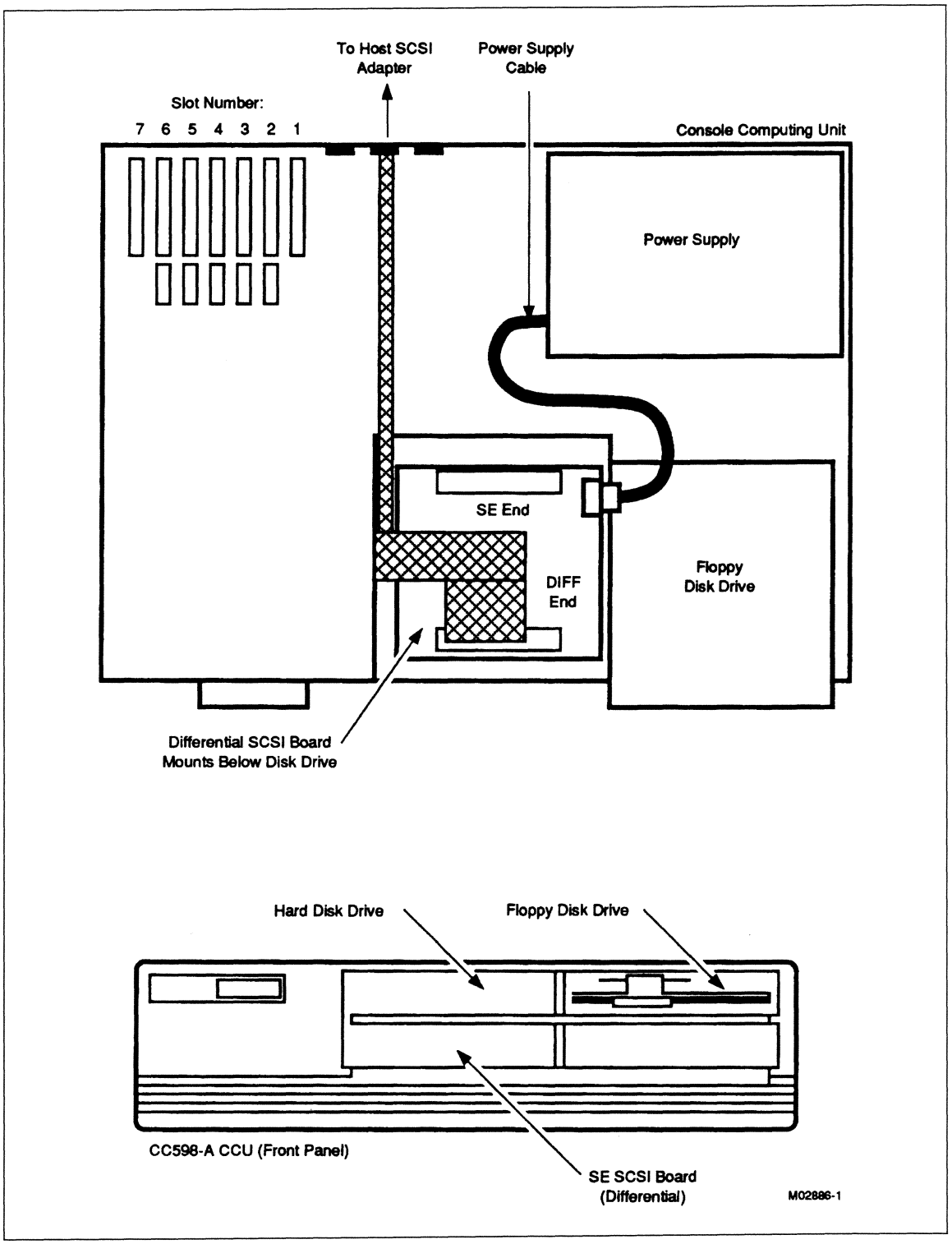

Figure A-8. Ribbon Cable Connection From Diff End of Differential SCSI Board to SCSI Adapter in Host (CC598-A)

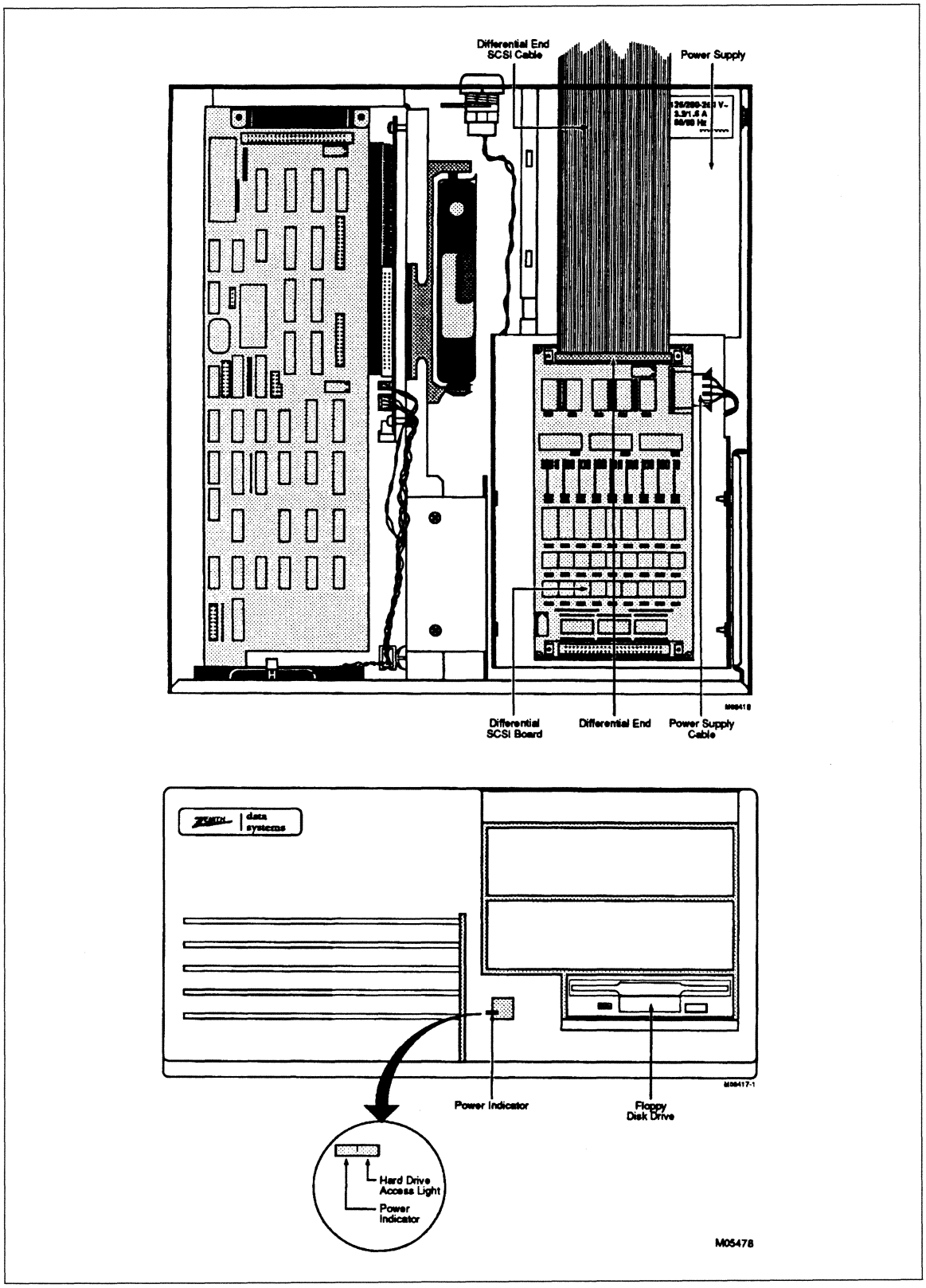

Figure A-9. Ribbon Cable Connection From Diff End of Differential SCSI Board to SCSI Adapter in Host (CC598-D)

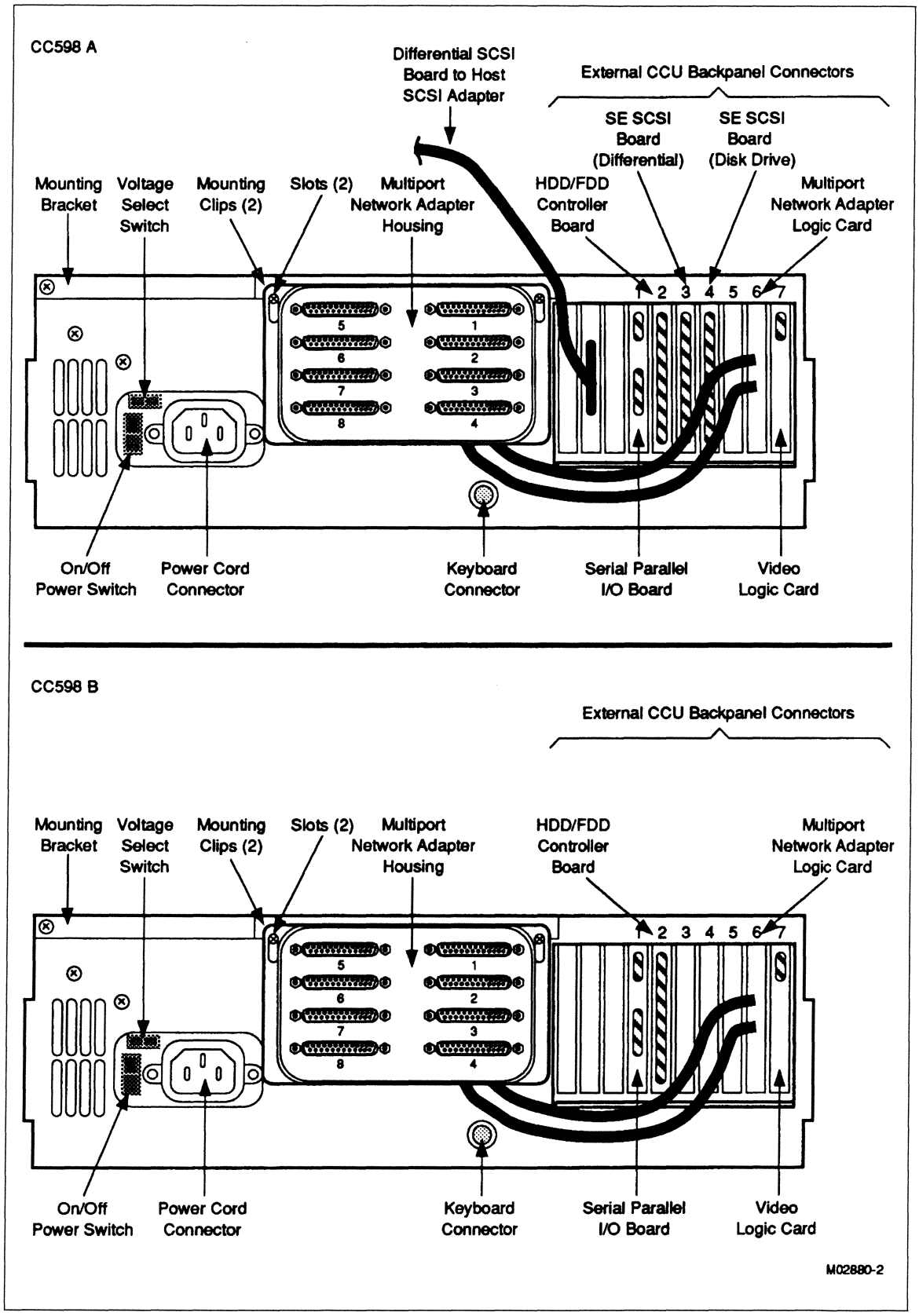

Figure A-10. Rear Views of CCU (CC598-A/B)

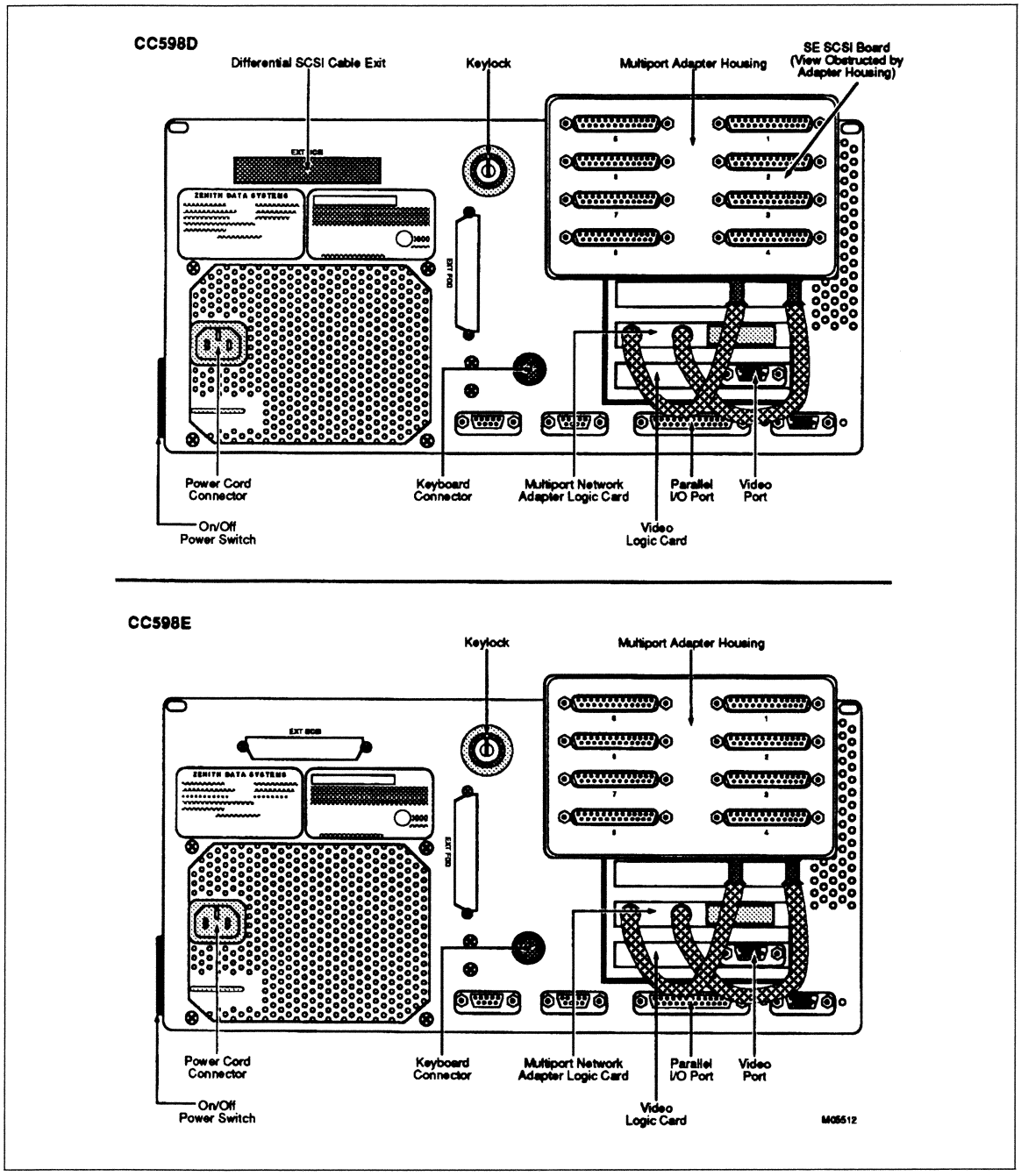

Figure A-11. Rear Views of CCU (CC598-D/E)

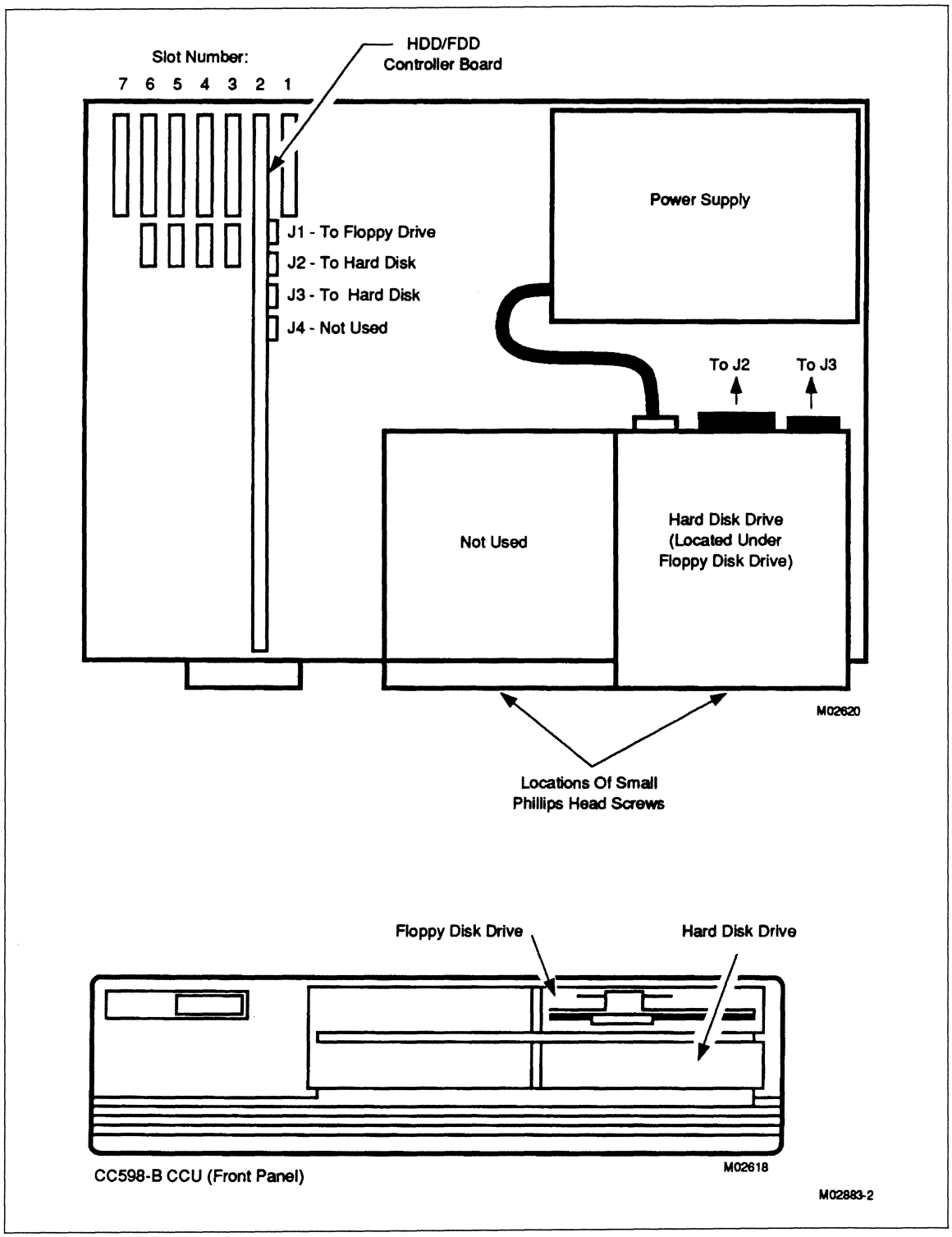

Figure A-12. Location of HDD/FDD Controller Board and Hard Disk Drive (CC598-B)

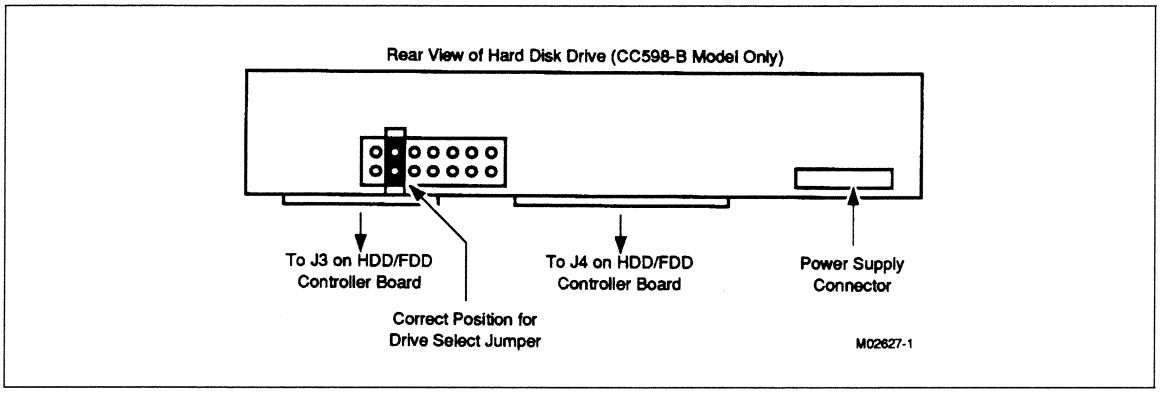

Figure A-13. Drive Select Jumper Placement on Hard Disk Drive (CC598-B)

Field Replaceable Units B

Table B-1 lists the field replaceable units (FRUs) for the CC598-A System Console.

Table B-1. CC598-A System Console FRUs

Part Number	Description
10293573	Hostess 550 Serial Port Board
10293574	Video Board (Paradise OEM 8)
10293575	Rancho RT10-ATC SE SCSI BD
10293576	Rancho RT-SDA Diff SCSI BD
10293578	PC LOCK/LED Assembly
10293579	PC Flat Ribbon Cable Assembly Adapter (adapts 3.5 disk cable to 5.25 disk)
10293580	PC Flat Ribbon Cable Assembly-FDD
10293581	PC WIN/FDD Control Board
10293582	PC FDD 1.2 Mbyte, 5.25 Inch
10293583	PC 101 Keyboard
10293584	12 MHz Motherboard
10293586	SCSI Flat Cable Set
10293587	PC Power Supply
10293588	PC Battery Backup
10303268	Serial/Parallel I/O Board
12104229	ZCM1492 Video Monitor
47191164	I/O Cable, 40 feet (diff. SCSI board to host)
77765850	CDC WREN III SCSI Hard Disk

Table B-2 lists the field replaceable units (FRUs) for the CC598-B System Console.

Table B-2. CC598-B System Console FRUs

Part Number	Description
10293573	Hostess 550 Serial Port Board
10293574	Video board (Paradise OEM 8)
10293578	PC LOCK/LED Assembly
10293579	PC Flat Ribbon Cable Assembly Adapter (adapts 3.5 disk cable to 5.25 disk)
10293580	PC Flat Ribbon Cable Assembly-FDD
10293581	PC WIN/FDD Control Board
10293582	PC FDD 1.2 Mbyte, 5.25 Inch
10293583	PC 101 Keyboard
10293584	12 MHz Motherboard
10293585	12 MHz PC W/SGL FDD
10293587	PC Power Supply, 12 MHz, 248
10293588	PC Battery backup
10303266	HDD Cable, 20 cond
10303267	HDD Cable, 34 cond
10303268	Serial/Parallel I/O Board
12104229	ZCM1492 Video Monitor
77747226	CDC WREN II HDD 94205-51

Table B-3 lists the field replaceable units (FRUs) for the CC598-D System Console.

Table B-3. CC598-D System Console FRUs

Part Number	Description
10293573	Hostess 550 Serial Port Board
10293574	Video Board (Paradise OEM 8)
10293576	Rancho RT-SDA DIFF SCSI Board
12168636	Rancho RT10-AT SE SCSI Board
10293583	PC 101 Keyboard
12104229	ZCM1492 Video Monitor
47191164	I/O Cable, 40 feet (differential SCSI board to host)
12168630	80 Mbyte Hard Disk Drive
12168631	16 MHz Motherboard
12168632	PC Power Supply
12168633	PC Battery Backup
12168634	PC WIN/FDD Control Board
12168635	PC FDD, 3.5 Inch

Table B-4 lists the field replaceable units (FRUs) for the CC598-E System Console.

Table B-4. CC598-E System Console FRUs

Part Number	Description
10293573	Hostess 550 Serial Port Bord
10293574	Video Board (Paradise OEM 8)
10293583	PC 101 Keyboard
12104229	ZCM1492 Video Monitor
12168630	80 Mbyte Hard Disk Drive
12168631	16 MHz Motherboard
12168632	PC Power Supply
12168633	PC Battery Backup
12168634	PC WIN/FDD Control Board
12168635	PC FDD, 3.5 Inch

Error Codes C

Table C-1 is a list of fault symptom codes. The additional error codes listed below are contained in Packet Error Messages (Fault Symptom Codes ABII007, ABII013, and ABII019):

01 H – Checksum error
02 H – Illegal function code
03 H – Packet too long (no stop byte, length > 518 bytes excluding stuff bytes)
04 H – Transmission error (parity, overrun, etc.)
05 H – Unauthorized function code
07 H – PP error
0C H – Data error
10 H – Abort exchange
11 H – No start byte
12 H – Packet error (packet control characters encountered in data)
13 H – Timeout error
14 H – Busy

Table C-1. Fault Symptom Codes

Code	Title	Page
ABII000	IOU0/Terminal 0 Cabling Error	C-3
ABII001	IOU0/Terminal 1 Cabling Error	C-3
ABII002	IOU0/Terminal 0 Communication Error	C-3
ABII003	IOU1/Terminal 0 Communication Error	C-4
ABII004	IOU0/Terminal 1 Communication Error	C-4
ABII005	IOU0/Terminal 0 Protocol Error	C-5
ABII006	IOU0/Terminal 0 Protocol Error	C-5
ABII007	IOU0/Terminal 0 Packet Error	C-5
ABII008	IOU0/Terminal 0 Carrier Detect Error	C-5
ABII009	IOU0/Terminal 0 Clear Screen Error	C-6
ABII010	IOU0/Terminal 0 Data Error	C-6
ABII011	IOU1/Terminal 0 Protocol Error	C-6
ABII012	IOU1/Terminal 0 Protocol Error	C-7
ABII013	IOU1/Terminal 0 Packet Error	C-7
ABII014	IOU1/Terminal 0 Carrier Detect Error	C-7
ABII015	IOU1/Terminal 0 Clear Screen Error	C-7
ABII016	IOU1/Terminal 0 Data Error	C-8
ABII017	IOU0/Terminal 1 Protocol Error	C-8
ABII018	IOU0/Terminal 1 Protocol Error	C-8
ABII019	IOU0/Terminal 1 Packet Error	C-9
ABII020	IOU0/Terminal 1 Carrier Detect Error	C-9
ABII021	IOU0/Terminal 1 Clear Screen Error	C-9
ABII022	IOU0/Terminal 1 Data Error	C-9
ABII030	IOU0 Power Off	C-10
ABII031	IOU1 Power Off	C-10
ABII033	Communications interrupted on IOU0 (Terminal 0)	C-10
ABII035	Communications interrupted on IOU1 (Terminal 0)	C-10
ABII040	Control R Timeout on IOU0 (Terminal 0)	C-10
ABII041	Control R Timeout on IOU1 (Terminal 0)	C-10
ABII042	Control R Timeout on IOU0 (Terminal 1)	C-10

(Continued)

Table C-1. Fault Symptom Codes *(Continued)*

Code	Title	Page
ABII051	Error Opening Port 8	C-11
ABII052	Error Opening Port 7	C-11
ABII053	Error Opening Port 6	C-11
ABII054	Error Opening Port 5	C-11
ABII055	Error Opening Port 4	C-11
ABII056	Error Opening Port 3	C-11
ABII057	Error Opening Port 2	C-11
ABII058	Error Opening Port 1	C-12
ABII060	Unable to Idle IOU0	C-12
ABII061	Unable to Idle IOU1	C-12
ABII069	Unable to open the file d:/DIR/FN on CIP partition X.	C-12
ABII070	Aborting PP load. Odd number of bytes in PP load file d:/DIR/Fn.	C-12
ABII071	Aborting PP load. Packet communication failed between TPM and Console.	C-12
ABII072	Cannot close PP load file.	C-12
ABII073	Unable to open the file d:/DIR/FN on the d:/DIR directory.	C-12
ABII100	Unable to communicate with Environment Power Monitor (EPM).	C-12
ABII200	Invalid IOU configuration has been detected.	C-13

ABII000 – IOU0/Terminal 0 Cabling Error

No cable detected between console port 8 and IOU0 (Terminal 0).

The console cannot support system activity without this connection.

System initialization resumes automatically when this cable is correctly installed.

ABII001 – IOU0/Terminal 1 Cabling Error

No cable detected between console port 6 and IOU0 (Terminal 1).

Remote Link capabilities require this cable connection.

System initialization automatically resumes when the cable has been correctly installed.

Press **space bar** to continue without Remote Link capabilities.

ABII002 – IOU0/Terminal 0 Communication Error

Unable to communicate with IOU0 (Terminal 0).

Possible reasons:

1. IOU or TPM is powered down.
2. Possible IOU initialization error has occurred.
3. Cable is not connected to IOU terminal.
4. Possible TPM problems.

Actions:

1. Power up IOU or TPM.
2. Determine if any IOU board LEDs are lighted. If they are, power the IOU off, then back on.
3. Connect cable to IOU terminal and press **Ctrl-G** to return to Console Main Menu.
4. Contact Control Data.

The console cannot support system activity without this connection.

ABII003 – IOU1/Terminal 0 Communication Error

Unable to communicate with IOU1 (Terminal 0).

Possible reasons:

1. IOU or TPM is powered down.
2. Possible IOU initialization error has occurred.
3. Cable is not connected to IOU terminal.
4. Possible TPM problems.

Actions:

1. Power up IOU or TPM.
2. Determine if any IOU board LEDs are lighted. If they are, power the IOU off, then back on.
3. Connect cable to IOU terminal and press **Ctrl-G** to return to Console Main Menu.
4. Contact Control Data.

ABII004 – IOU0/Terminal 1 Communication Error

Possible reasons:

1. IOU or TPM is powered down.
2. Possible IOU initialization error has occurred.
3. Cable is not connected to IOU terminal.
4. Possible TPM problems.

Actions:

1. Power up IOU or TPM.
2. Determine if any IOU board LEDs are lighted. If they are, power the IOU off, then back on.
3. Connect cable to IOU terminal and press **Ctrl-G** to return to Console Main Menu.
4. Contact Control Data.

ABII005 – IOU0/Terminal 0 Protocol Error

Error encountered while initializing IOU0 (Terminal 0).

Control G sequence protocol error with IOU0 (Terminal 0). Incorrect Request Terminal ID function byte received.

expected = <xx>
received = <xx>
port = <x>

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII006 – IOU0/Terminal 0 Protocol Error

Error encountered while initializing IOU0 (Terminal 0).

Control G sequence protocol error with IOU0 (Terminal 0).

Incorrect Request PC Confirm function byte received.

expected = <xx>
received = <xx>
port = <x>

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII007 – IOU0/Terminal 0 Packet Error

Error encountered while initializing IOU0 (Terminal 0).

Control G sequence protocol error with IOU0 (Terminal 0).

Error with packet data received from IOU0 (Terminal 0).

expected = <xx>
received = <xx>
error code = <xx>
port = <x>

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII008 – IOU0/Terminal 0 Carrier Detect Error

Error encountered while initializing IOU0 (Terminal 0).

Control G sequence protocol error with IOU0 (Terminal 0).

Carrier detect not asserted after packet exchange.

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII009 - IOU0/Terminal 0 Clear Screen Error

Error encountered while initializing IOU0 (Terminal 0).

Control G sequence protocol error with IOU0 (Terminal 0).

No clear screen code received after Carrier Detect asserted.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII010 - IOU0/Terminal 0 Data Error

Error encountered while initializing IOU0 (Terminal 0).

Control G sequence protocol error with IOU0 (Terminal 0).

Bad string data received.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII011 - IOU1/Terminal 0 Protocol Error

Error encountered while initializing IOU1 (Terminal 0).

Control G sequence protocol error with IOU1 (Terminal 0).

Incorrect Request Terminal ID function byte received.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII012 – IOU1/Terminal 0 Protocol Error

Error encountered while initializing IOU1 (Terminal 0).

Control G sequence protocol error with IOU1 (Terminal 0).

Incorrect Request PC Confirm function byte received.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII013 – IOU1/Terminal 0 Packet Error

Error encountered while initializing IOU1 (Terminal 0).

Control G sequence protocol error with IOU1 (Terminal 0).

Error with packet data received from IOU1 (Terminal 0).

```
expected = <xx>
received = <xx>
error code = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII014 – IOU1/Terminal 0 Carrier Detect Error

Error encountered while initializing IOU1 (Terminal 0).

Control G sequence protocol error with IOU1 (Terminal 0).

Carrier detect not asserted after packet exchange.

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII015 – IOU1/Terminal 0 Clear Screen Error

Error encountered while initializing IOU1 (Terminal 0).

Control G sequence protocol error with IOU1 (Terminal 0).

No clear screen code received after Carrier Detect asserted.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII016 - IOU1/Terminal 0 Data Error

Error encountered while initializing IOU1 (Terminal 0).

Control G sequence protocol error with IOU1 (Terminal 0).

Bad string data received.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII017 - IOU0/Terminal 1 Protocol Error

Error encountered while initializing IOU0 (Terminal 1). Control G sequence protocol error with IOU0 (Terminal 1).

Incorrect Request Terminal ID function byte received.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII018 - IOU0/Terminal 1 Protocol Error

Error encountered while initializing IOU0 (Terminal 1).

Control G sequence protocol error with IOU0 (Terminal 1).

Incorrect Request PC Confirm function byte received.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII019 – IOU0/Terminal 1 Packet Error

Error encountered while initializing IOU0 (Terminal 1).

Control G sequence protocol error with IOU0 (Terminal 1).

Error with packet data received from IOU0 (Terminal 1).

```
expected = <xx>
received = <xx>
error code = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII020 – IOU0/Terminal 1 Carrier Detect Error

Error encountered while initializing IOU0 (Terminal 1).

Control G sequence protocol error with IOU0 (Terminal 1).

Carrier detect not asserted after packet exchange.

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII021 – IOU0/Terminal 1 Clear Screen Error

Error encountered while initializing IOU0 (Terminal 1).

Control G sequence protocol error with IOU0 (Terminal 1).

No clear screen code received after Carrier Detect asserted.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII022 – IOU0/Terminal 1 Data Error

Error encountered while initializing IOU0 (Terminal 1).

Control G sequence protocol error with IOU0 (Terminal 1).

Bad string data received.

```
expected = <xx>
received = <xx>
port = <x>
```

Retry the failing operation by pressing **Ctrl-Alt-Del**. If the failure persists, contact Control Data.

ABII030 – IOU0 Power Off

IOU0 power is off.

The console will restart automatically once IOU0 is powered on.

ABII031 – IOU1 Power Off

IOU1 power is off.

The console will restart automatically once IOU1 is powered on.

Press the **space bar** to continue without IOU1.

ABII033 – Communications interrupted on IOU0 (Terminal 0)

Communication between console port 8 and IOU0 (Terminal 0) has been interrupted.

Possible reasons:

1. Cable is not connected at the console or IOU terminal.
2. IOU has been powered off.

Press **Ctrl-G** to return to CONSOLE MAIN MENU.

ABII035 – Communications interrupted on IOU1 (Terminal 0)

Communication between console port 7 and IOU1 (Terminal 0) has been interrupted.

Possible reasons:

1. Cable is not connected at the console or IOU terminal.
2. IOU has been powered off.

Press **Ctrl-G** to return to Console Main Menu.

ABII040 – Control R Timeout on IOU0 (Terminal 0)

Timed out waiting for response to CTRLR on IOU0 (Terminal 0). Press **Esc** to continue.

ABII041 – Control R Timeout on IOU1 (Terminal 0)

Timed out waiting for response to CTRLR on IOU1 (Terminal 0).

Press **Esc** to continue.

ABII042 – Control R Timeout on IOU0 (Terminal 1)

Timed out waiting for response to CTRLR on IOU0 (Terminal 1).

Press **Esc** to continue.

ABII051 – Error Opening Port 8

Error opening port = 8, stat = y

Hostess Adapter Card base address is incorrect.

Power the Console off and check Switch 1 settings before retrying.

ABII052 – Error Opening Port 7

Error opening port = 7, stat = y

Hostess Adapter Card base address is incorrect.

Power the Console off and check Switch 1 settings before retrying.

ABII053 – Error Opening Port 6

Error opening port = 6, stat = y

Hostess Adapter Card base address is incorrect.

Power the Console off and check Switch 1 settings before retrying.

ABII054 – Error Opening Port 5

Error opening port = 5, stat = y

Hostess Adapter Card base address is incorrect.

Power the Console off and check Switch 1 settings before retrying.

ABII055 – Error Opening Port 4

Error opening port = 4, stat = y

Hostess Adapter Card base address is incorrect.

Power the Console off and check Switch 1 settings before retrying.

ABII056 – Error Opening Port 3

Error opening port = 3, stat = y

Hostess Adapter Card base address is incorrect.

Power the Console off and check Switch 1 settings before retrying.

ABII057 – Error Opening Port 2

Error opening port = 2, stat = y

Hostess Adapter Card base address is incorrect.

Power the Console off and check Switch 1 settings before retrying.

ABII058 – Error Opening Port 1

Error opening port = 1, stat = y

Hostess Adapter Card base address is incorrect.

Power the Console off and check Switch 1 settings before retrying.

ABII060 – Unable to Idle IOU0

Unable to Idle IOU0. Did not receive a packet accepted to the Establish Deadstart Environment packet.

ABII061 – Unable to Idle IOU1

Unable to Idle IOU1. Did not receive a packet accepted to the Establish Deadstart Environment packet.

C

ABII069 – Unable to open the file d:/DIR/FN on CIP partition X.

Where: d is a drive letter
DIR is a directory name
FN is a file name
X is a CIP partition[1]

ABII070 – Aborting PP load. Odd number of bytes in PP load file d:/DIR/Fn.

Where: d is a drive letter
DIR is a directory name
FN is a file name

ABII071 – Aborting PP load. Packet communication failed between TPM and Console.

ABII072 – Cannot close PP load file.

ABII073 – Unable to open the file d:/DIR/FN on the d:/DIR directory.

Where: d is a drive letter
DIR is a directory name
FN is a file name

1. There are two partitions with CIP L765 and above (X = 1 or 2), but three partitions prior to CIP L765 (X = 1, 2, or 3).

ABII100 – Unable to communicate with Environment Power Monitor (EPM).

Possible reasons:

1. Cable is not connected to EPM connector (power unit connector J3).

Actions:

2. Ensure cable connected to the EPM connector and then restart console.

Press **space bar** to continue without EPM.

ABII200 – Invalid IOU configuration has been detected.

The primary IOU has been detected to be a model xx.

The secondary IOU has been detected to be a model yy.

This configuration is illegal. Valid configurations are:

single	I4A	(Model 40 primary)
dual	I4As	(Model 40 primary, Model 40 secondary)
single	I4C	(Model 44 primary)
dual	I4Cs	(Model 44 primary, Model 44 secondary)
mixed	I4s	(Model 40 primary, Model 44 secondary)

Inspect the cables connected to ports 7 and 8 of the Hostess Multiport Adaptor. Recable if necessary and then restart the Console.

Glossary D

A

Alphabetic character
One of the following letters: A through Z, a through z.

Alphanumeric character
One of the following letters: A through Z, a through z, and the numbers 0 through 9.

B

BAUD RATE
The speed in baud is the number of asynchronous data bits transferred per second, eliminating all overhead bits that may be present. Usually equivalent to bits-per-second.

Boot
The system console initialization sequence.

C

CDC
Control Data Corporation.

CIP
CYBER Initialization Package.

Clock (CLK)
1. (ISO) A device that generates periodic signals used for synchronization. 2. (ISO) Equipment that provides a time base used in a transmission system to control the timing of certain functions such as sampling and the duration of signal elements. See also Real Time.

CML
Concurrent maintenance library.

CML/VE
Concurrent maintenance library/virtual environment.

CMSE
Common maintenance software executive.

CTI
Common test and initialization.

D

Deadstart

The process of initializing the system by loading the operating system library programs and any of the product set from magnetic tape or disk. Deadstart recovery is reinitialization after system failure.

F

Field-Replaceable Unit (FRU)

Equipment parts that are replaceable at the customer site are referred to as FRUs. Equipment manuals generally recommend a list of FRUs that should be stocked on site for that equipment. FRUs are identified with 8-digit part numbers that can be ordered from Control Data's World Distribution Center (WDC). See also World Distribution Center.

Floppy disk

A removable flexible disk. Allows insertion of optional programs and files.

FRU

See Field-Replaceable Unit.

H

Hard Disk

Non-removable disk containing basic programs.

HPA

Hardware Performance Analyzer.

HPA/VE

Hardware performance analyzer/virtual environment.

I

Input/Output Unit (IOU)

IOU contains the peripheral processors and channels that enable operator interaction with, and peripherals access to, the central processing unit. The IOU has either NOS and NOS/VE capability (CYBER 960) or is NOS/VE only (CYBER 962). The IOU has the interface port for the system console.

IOU

See Input/Output Unit.

M

Modem

(ISO) A functional unit that modulates and demodulates signals. One of the functions of a modem is to enable digital data to be transmitted over analog transmission facilities. Modem is a contraction of modulator-demodulator.

MSL

Maintenance software library.

N

Network Operating System (NOS)

An operating system for the host computer. It has network capabilities for time-sharing and transmission processing in addition to local and remote batch processing. NOS controls the computation of programs submitted through remote terminals and maintains normal batch processing operations for jobs submitted locally.

Network Operating System/Virtual Environment (NOS/VE)

An operating system for the host computer. It has network capabilities for time-sharing and transmission processing in addition to local and remote batch processing. NOS/VE operates in Virtual State and controls the computation of programs submitted through remote terminals and maintains normal batch processing operations for jobs submitted locally.

NOS

See Network Operating System.

NOS/VE

See Network Operating System/Virtual Environment.

P

P/N

Part number.

R

RAM

Random-access memory.

RS-232-C

An Electrical and Electronic Industries Association (EIA) standard that describes the interface between terminals or other data terminal equipment and modems or other data communications equipment employing a serial binary interchange.

RTA

Remote technical assistance.

S

SCSI

Small computer standard interface in IOU. The system console interfaces with the IOU through SCSI.

SMAQR

Standardized maintenance approach quick reference.

T

TPM

Two-port multiplexer.

W

WDC

See World Distribution Center.

World Distribution Center (WDC)

Control Data's ordering and distribution center for spare hardware parts, software revision packages, and the documentation produced to support its product lines.

Index

C

C Option, Set Communication Parameters (C) 2-37

D

Deinstallation 5-1

E

Editing Communication Parameters 2-39
Environment Power Monitor Support 1-7
Error Codes
  Descriptions of Symptom Codes C-3
  List of Fault Symptom Codes C-1

F

Field Replaceable Units
  CC598-A System Console FRUs B-1
  CC598-B System Console FRUs B-2
  CC598-D System Console FRUs B-3
  CC598-E System Console FRUs B-4

H

Hardware Quick Reference Diagrams
  Differential SCSI Board Connection to SCSI Adapter in Host (CC598-A) A-9
  Differential SCSI Board Connection to SCSI Adapter in Host (CC598-D) A-10
  Drive Select Jumper Placement on Hard Disk Drive (CC598-B) A-14
  Location of HDD/FDD Controller Board and Hard Disk Drive (CC598-B) A-13
  Multiport Network Adapter Board Switch Settings (CC598-A/B/D/E) A-7
  Paradise Video Board Jumper Settings (CC598-A/B/D/E) A-8
  Rear Views of CCU (CC598-A/B) A-11
  Rear Views of CCU (CC598-D/E) A-12
  Ribbon Cable Connections to Hard Disk Drive (CC598-D/E) A-6
  SE SCSI Board to Differential SCSI Board (CC598-A) A-3
  SE SCSI Board to Differential SCSI Board (CC598-D) A-4
  SE SCSI Board to Hard Disk Drive (CC598-A) A-5
  Top View of 12 MHz CCU Motherboard (CC598-A/B) A-2

I

I Option, Install/Update CIP (CC598-A/D only) 2-26
Initializing the System Console
  Recovery Procedure 3-2
  Reinstalling/Updating System Console Software 3-3
  System Console Initialization Procedure
    Keyboard Initialization Sequence 3-1
    Power-On Initialization Sequence 3-1

L

L Option, Remote Link 2-30
L Option, System Load (Applies to CC598-A/D Only) 2-20
L Option, System Load (Applies to CC598-B/E Only) 2-19

M

M Option, Maintenance Options 2-21
  IOU0 (0) Option 2-23
  IOU1 (1) Option 2-23

O

Operator Controls and Displays
  CCU Backpanel Controls 2-3
  CCU Frontpanel Controls 2-5
  CCU Monitor Controls 2-8
  Change Display Colors (D) 2-41
  Console Computing Unit (CCU) 2-2
  Console Displays
    Console Help Display 2-42
    Overview of CC598-A/D Dual IOU Displays 2-13
    Overview of CC598-A/D Single IOU Displays 2-12
    Overview of CC598-B/E Dual IOU Displays 2-15
    Overview of CC598-B/E Single IOU Displays 2-14
  Console Keyboard
    Keyboard Functions 2-9
    Use of Editing Keys 2-11
    Use of Function Keys 2-10
  Console Main Menu Display 2-17
    CC545 Console Support 2-42
    Console Help Display 2-42
    Console Utilities (C) 2-29
    List of Maintenance Options 2-22
    Maintenance Options (M) 2-21

System Load Options (S)(CC598A/D only) 2-20
System Load Options (S)(CC598B/E only) 2-19
Console Utilities (C)
Modify Console Password (P) 2-35
Modify Remote Access Password (R) 2-32
Remote Link (L) Options Display 2-30
Remote Link Messages 2-32
Remote Link Privileges 2-31
Set Communication Parameters (C) 2-37
Shutdown Console (S) 2-37
Terminate Remote Link (T) 2-32
Verify Remote Access Password Display 2-33
Control Data Copyright Display 2-16
Maintenance Options (M)
Install/Update CIP (I) Option (CC598-A/D only) 2-26
IOU/Peripheral Tests (T) (CC598-A/D only) 2-27
Maintenance Options - IOU0 (0) Option 2-23
Maintenance Options - IOU1 (1) Option 2-23
Offline Maintenance - IOU 1 (M) Option (CC598-A/D only) 2-27
Select CIP Partition (S) Option (CC598-A/D only) 2-23
System Load with LDS (L) 2-22
Set Communication Parameters (C)
Baud Rate 2-40
Modem Initilization String 2-40
Parity 2-40
Stop Bits 2-40
Word Length 2-40
Video Monitor Controls 2-8

P

P Option, Modify Console Password (P) 2-35

R

R Option, Modify Remote Access Password (R) 2-32
Repair Procedures
Console Computing Unit (CCU) 7-1
Console Keyboard 7-1
Differential SCSI Board Remove/Replace Procedure (CC598-A) 7-9
Differential SCSI Board Remove/Replace Procedure (CC598-D) 7-19
Disk Drive Remove/Replace Procedure (CC598-A) 7-7
Hard Disk Drive Remove/Replace Procedure (CC598-B) 7-15
Hard Disk Drive Remove/Replace Procedure (CC598-D/E) 7-17
Initializing the Hard Disk 7-25
Multiport Network Adapter
Adapter Card Remove/Replace Procedure 7-5
Adapter Housing Remove/Replace Procedure 7-3
SE SCSI Board Remove/Replace Procedure (CC598-A) 7-12
SE SCSI Board Remove/Replace Procedure (CC598-D) 7-22
Video Monitor 7-2
WREN II Disk Drive
WREN III Disk Drive

S

S Option, Select CIP Partition (CC598-A/D only) 2-23
S Option, Shutdown Console (S) 2-37
System Console Components
CC598-A 1-1
CC598-B 1-1
CC598-D 1-1
CC598-E 1-1
System Console Functions and Features
CC545 Deadstart Button Support (CC598-B/E only) 1-4
CIP Library Support (CC598-A/D only) 1-7
Maintenance Support 1-5
NOS Support (CC598-B/E only) 1-4
NOS/VE Support 1-4
Print Display (Optional) 1-7
Remote Link Support
Console Password 1-6
Enable/Disable Remote Link 1-5
Remote Access Password 1-6
System Console Installation
Initializing the Hard Disk and Installing Software 4-7
Installation
Connections 4-2
Keyboard Connection 4-3
Monitor Connection 4-3
Multiport Network Adapter Connections 4-4
Optional Printer Connection 4-4
Power Connection 4-5
Unpacking 4-1

T

T Option, IOU/Peripheral Tests (CC598-A/D only) 2-27
T Option, Terminate Remote Link 2-32
Test Descriptions
SCSI Adapter Channel 6-11
5698 Tape Subsystem 6-11
Troubleshooting
Console Failure Checklist 6-1
Console Information Lost Notification 6-8
Diagnostics Available 6-1
Error Messages
Error Message Displays 6-7
Power-On Error Messages 6-7
Running Multiport Network Adapter Diagnostics 6-9
SCSI Adapter Channel Test Descriptions (CC598-A/D only) 6-11
Troubleshooting the CC598-A/D System Console 6-5
Undefined Deadstart Programs in TPM (CC598-B/E only) 6-9

0

0 IOU Maintenance Option 2-23

1

1 IOU Maintenance Option 2-23

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